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Lead Counsel for Plaintiff Class

18 **UNITED STATES DISTRICT COURT**
19 **CENTRAL DISTRICT OF CALIFORNIA**

20 KEITH ANDREWS, an individual,
TIFFANI ANDREWS, an individual.
21 BACIU FAMILY LLC, a California
limited liability company, ROBERT
22 BOYDSTON, an individual, CAPTAIN
JACK'S SANTA BARBARA TOURS,
23 LLC, a California limited liability
company, MORGAN CASTAGNOLA, an
24 individual, THE EAGLE FLEET. LLC., a
California limited liability company,
25 ZACHARY FRAZIER, an individual,
MIKE GANDALL, an individual,
26 ALEXANDRA B. GEREMIA, as Trustee
for the Alexandra Geremia Family Trust
27 dated 8/5/1998, JIM GUELKER, an
individual, JACQUES HABRA, an
28 individual, ISURF, LLC, a California

Case No. 2:15-cv-04113-PSG-JEM

[Consolidated with Case Nos. 2:15-
CV-04573 PSG (JEMX), 2:15-CV-
4759 PSG (JEMX), 2:15-CV-4989
PSG (JEMX), 2:15-CV-05118 PSG
(JEMX), 2:15-CV-07051- PSG
(JEMX)]

CLASS ACTION

**CORRECTED DECLARATION
OF RANDALL BELL, PHD, MAI
IN SUPPORT OF PLAINTIFFS'
RENEWED MOTION FOR CLASS
CERTIFICATION**

1 limited liability company, MARK
2 KIRKHART, an individual, MARY
3 KIRKHART, an individual, RICHARD
4 LILYGREN, an individual, HWA HONG
5 MUH, an individual, OCEAN ANGEL IV,
6 LLC, a California limited liability
7 company, PACIFIC RIM FISHERIES.
8 INC., a California corporation, SARAH
9 RATHBONE, an individual,
10 COMMUNITY SEAFOOD LLC, a
11 California limited liability company,
12 SANTA BARBARA UNI, INC., a
13 California corporation, SOUTHERN CAL
14 SEAFOOD, INC., a California
15 corporation, TRACTIDE MARINE
16 CORP., a California corporation, WEI
INTERNATIONAL TRADING INC., a
California corporation and STEPHEN
WILSON, an individual, individually and
on behalf of others similarly situated,

Plaintiffs,

v.

17 PLAINS ALL AMERICAN PIPELINE,
18 L.P., a Delaware limited partnership,
19 PLAINS PIPELINE, L.P., a Texas limited
20 partnership, and JOHN DOES 1 through
21 10,

Defendants.

DECLARATION OF RANDALL BELL, PHD, MAI.

I, Randall Bell, PhD, MAI, declare as follows:

1. I submitted two prior declarations in this matter: Declaration of Randall Bell, Ph.D., MAI in Support of Plaintiffs' Motion for Class Certification [Dkt. #125], and Rebuttal Declaration of Randall Bell, Ph.D., MAI [Dkt. #214] ("Original Declarations").¹ I submit this further Declaration to provide additional analysis in support of my Original Declarations.

2. In the Original Declarations, I described, from an appraisal perspective, how damages for impacted property owners and lessees can be calculated. Specifically, I described how, based on my experience and research for this case, any harm to property owners and lessees can be quantified and why such losses can be quantified through mass appraisal techniques. I have investigated a number of factors in coming to my conclusions described below.

BACKGROUND

3. I am a real estate economist and a licensed appraiser. I also am a certified general appraiser and a licensed real estate broker. I hold the professional designation of MAI from the Appraisal Institute. A copy of my resume is attached as Exhibit 1.

4. I am a principal and the CEO of Landmark Research Group, LLC, a consulting and appraisal firm that specializes in real estate damage economics – located at: 496 Broadway, Laguna Beach, California 92651. Prior to this, I led the national real estate damages practice at Bell Anderson & Sanders LLC, Price Waterhouse and PricewaterhouseCoopers.

¹ Defendants filed a motion to strike my prior declarations, but the Court denied that motion. (Order GRANTING IN PART and DENYING IN PART Plaintiffs' Motion for Class Certification, and DENYING Motions to Strike [Dkt. #257], p. 13.)

1 5. I have a PhD degree from Fielding Graduate University focusing on
2 socio-economics, an MBA degree with a real estate emphasis from UCLA and a BS
3 degree in finance and accounting from BYU.

4 6. I have over 25 years of experience in appraisal, consulting and
5 research regarding residential, land, commercial, special purpose, retail, industrial,
6 recreational and investment properties in several states, as well as internationally.

7 7. Since 1992, I have increasingly specialized in real estate damage
8 economics, which includes valuation issues related to a variety of detrimental
9 conditions, including environmental issues, geotechnical issues, distress conditions,
10 construction defects, and natural disasters.

11 8. I am the author of the Appraisal Institute's course titled "The
12 Valuation of Detrimental Conditions in Real Estate" and I have taught the course on
13 dozens of occasions throughout the United States, Canada, South America and
14 Asia. This course specifically addresses the appropriate methodologies for valuing
15 properties that have been impacted with detrimental conditions, such as
16 environmental issues.

17 9. I am the author of numerous published articles related to the effect that
18 detrimental conditions have on real estate values.

19 10. I am the author of the book, "Real Estate Damages – 3rd Edition"
20 which is published by the Appraisal Institute. This book is widely regarded as the
21 authoritative text on determining the impacts, if any, that a detrimental condition
22 has on property values. Specifically, Chapter 1 addresses diminution in value
23 methodologies and Chapter 8 addresses environmental issues.

24 11. I have been retained in hundreds of diminution in value assignments,
25 including the World Trade Center, Hurricane Katrina and the Bikini Atoll Nuclear
26 Test Sites, respectively the largest terrorist, climate and environmental cases in
27 modern history.

28

1 12. Through my work, I have generally become familiar with beach-front
2 neighborhoods throughout California, including those stretching from Refugio State
3 Beach to Orange County.

4 13. This declaration discusses the investigations undertaken to date,
5 methodologies available and preliminary analysis performed, and sets forth how
6 damages to the owners and lessees of residential properties impacted by the Line
7 901 spill can be calculated, and whether such damages can be calculated on a
8 subclass-wide basis through, for example, mass appraisal techniques. The analysis,
9 findings and conclusions are based upon the characteristics of the subject
10 developments and standard real estate appraisal methodologies. Further, this
11 declaration addresses the ability of mass appraisal techniques to measure
12 diminution in value, resulting in loss of use and enjoyment, suffered by the
13 members of the subclass. Damage calculations will be the subject of a future
14 report.

15 14. The scope of work for this declaration includes the following tasks:

- 16 • Read various background and supporting documents.
- 17 • Research background data regarding the four class representative
- 18 properties.
- 19 • Review various legal documents.
- 20 • Perform a literature review on water amenities and environmental
- 21 conditions, as well as mass appraisal.
- 22 • Discuss the availability of market data with local real estate
- 23 professionals.
- 24 • Collect and review preliminary market data.
- 25 • Personally inspect the subclass representatives' developments, the
- 26 surrounding areas and comparable developments.
- 27 • Perform preliminary analyses in order to demonstrate such techniques.
- 28 • Review the Uniform Standards of Professional Appraisal Practice and

1 other appraisal textbooks and articles related to mass appraisal
2 techniques.

- 3 • Determine if mass appraisal techniques are appropriate given the
4 relevant facts.
- 5 • Review the conclusions of beach contamination prepared by Dr. Igor
6 Mezić.
- 7 • Conduct in-person surveys of residents of beach communities
8 impacted by the Plains Oil Spill to identify limitations on beach use
9 caused by the spill.
- 10 • Conduct in-person surveys of beach visitors to evaluate willingness to
11 visit beaches based on oil coverage.
- 12 • Conduct in-person surveys of beach visitors to quantify beach-
13 proximity amenity.
- 14 • Prepare an expert declaration.
- 15 • Mr. Michael Tachovsky assisted with subject property and market
16 research. Mr. Tyler Baird assisted with subject property and market
17 research. Mr. Michael Bell assisted with background research. Mr.
18 Dave Krishan, Mr. Michael Bell, and Mr. Joshua Clawson assisted
19 with the field surveys. Dr. Jack Williamson and Mr. Valeo Schultz
20 assisted with evaluating the oil spill data and the survey results.

21 **SUMMARY**

22 15. Plains Oil Spill – Case Background: The Plains Oil Spill occurred on
23 May 19, 2015 and resulted in crude oil being deposited on beaches from north of
24 Refugio State Beach to as far south as Orange County. This oil spill resulted in an
25 effective loss of the amenities for which residential property owners and lessees pay
26 a premium to live on or near the ocean. This effective loss lasted while those
27 amenities were polluted with oil.
28

1 16. Subject Properties: The properties harmed by the Plains Oil Spill are
2 determined based on information and conclusions developed by Dr. Igor Mezić
3 regarding where and when the oil flowed after entering the ocean, other reports
4 regarding the impact of oil from Line 901 in the ocean and washing onto beaches
5 and properties, as well as my professional assessment of the geographic scope of
6 properties impacted by the oil in the ocean and washing onto beaches and
7 properties. The persons and entities to be included in the real property subclass are
8 set forth in paragraph 47, below.

9 17. Water Feature Premiums: A review of the literature and market data
10 confirmed what is commonly known and self-evident: property owners and tenants
11 routinely pay significant premiums for water amenities, such as shoreline frontage,
12 beach and ocean access, or coastal proximity.

13 18. Environmental Valuation: The Plains Oil Spill environmentally
14 damaged the beaches and oceans and effectively resulted in a loss of the amenities
15 for which numerous property owners and tenants pay a premium. A literature
16 review was conducted on the topic of environmental issues and their impact on real
17 estate values. Environmental valuation methodologies and the Uniform Standards
18 of Professional Appraisal Practice (USPAP) recognize that loss-of-use is an
19 appropriate method of calculating environmental damages.

20 19. Oil Spills: Oil that comes onto or nearby properties as a result of oil
21 spills can have a significant impact on owners' and lessees' enjoyment of their
22 properties. This has been well recognized in the appraisal and real estate and
23 economics professions for years, and has been reflected in the literature on the
24 topic. In particular, the severity of the impact of the BP oil spill on properties
25 resulted in a number of published articles on this subject. These articles confirm
26 what is generally known – that oil on or around properties close to the beach
27 significantly impacts the owners' and lessees' enjoyment of those properties, and
28 the use and values of such properties are diminished. Additionally, surveys of

1 residents and beach visitors in shoreline areas impacted by the Plains Oil Spill
2 indicate that the oil spill impacted their communities' use of the beach amenities.

3 20. Mass Appraisal: USPAP recognizes that mass appraisal methodologies
4 are a proper method of valuing harm caused to large numbers of properties. Mass
5 appraisals are most often used for property tax computations and in cases, such as
6 this, where large numbers of properties incurred a damage that is relatively low, as
7 compared to their overall value.

8 21. Plains Oil Spill - Valuation Methodologies: All of the proposed
9 plaintiffs' properties are located on or near the California coastline, all are
10 residential properties or land, and all lost the effective use of the amenities for
11 which they pay a premium as a result of the Plains Oil Spill.

12 22. The method to determine damages for a proposed subclass in a case
13 like this is straight forward. The subject properties would enjoy valuable amenities,
14 but for the Plains Oil Spill. As a result of this spill, the subject properties
15 effectively lost those amenities for a period of time. The owners and lessees who
16 paid a premium for those amenities lost the value of that premium, and therefore
17 were damaged in the amount of the incremental value of the premium.

18 23. The lost value of the premium paid for water amenities can be
19 calculated as the unimpaired rental rate of the subject property, less the rental rate
20 of an otherwise similar property without the beach proximity (i.e., a property that
21 lacks those amenities) – over the period where this valuable amenity was
22 effectively lost.

23 24. Based on property inspections and a review of available market data,
24 (including the MLS) there is ample market data to analyze the loss of the coastal
25 premium using simple regressions, multiple regressions or a paired-data analysis.

26 25. I have conducted a preliminary analysis utilizing actual market data to
27 demonstrate the feasibility of this methodology. This preliminary analysis is
28 presented later in this declaration. The type of paired-data analysis described can

1 be performed in various neighborhoods and regions along the shoreline areas where
2 the presence of oil caused residential property owners and lessees to lose the value
3 of the water premium. This damage figure then would be applied to the other
4 similar properties in that area for the period during which they were harmed by the
5 oil spill.

6 26. As a result of my research, personal inspections, literature review, and
7 analysis, the damage to the subject properties resulting from the Plains Oils Spill
8 can be accurately calculated on a mass appraisal basis for the proposed subclass
9 participants utilizing standard paired-data techniques. Based on the ample market
10 data available, this case is ideally suited for such a mass appraisal technique.

11 27. Mass appraisals provide the ability to measure the contributory value
12 of a foregone benefit such as ocean proximity and access. Such amenities are
13 known in the appraisal and economic literature as externalities, and can be a
14 significant contributing factor to a property's value. Mass appraisal is a
15 standardized method to quantify the contribution of the amenity's benefit to overall
16 value, or in the case of a lost external benefit, the damages across the class area.
17 The methodology is both efficient and equitable in quantifying the benefit
18 uniformly across all properties in the class, compared to individual valuation of
19 each property. The benefits of mass appraisal also include consistent and
20 statistically-standardized application of market to all properties in the class and
21 control areas. It also provides a standardized methodology to statistically test and
22 validate the valuation parameters and final conclusions. For large numbers of
23 properties impacted by an environmental event such as a wide-spread oil spill
24 impairing miles of coastline, mass appraisal reduces the data organization and
25 administrative expenses while maintaining the reliability of the conclusions.

26 28. In essence, mass appraisal provides the necessary uniformity in
27 ascertaining damages to thousands of properties in a manner consistent with the
28 standard of fairness required in litigation and the objectives of class treatment.

29. I have successfully and appropriately performed and relied on mass appraisal in numerous impairment valuations, most notably in matters involving large numbers of subject properties where the final values are dependent upon detriments or benefits accruing from widespread real estate conditions.

PLAINS OIL SPILL – CASE BACKGROUND

30. On May 19, 2015, a corroded section of a 10.6-mile oil pipeline, owned by Plains All American Pipeline, ruptured.² The 24-inch oil line rupture, located on the mountain side of Highway 101 north of Refugio State Beach, sent oil through a culvert under the highway and railroad tracks, into the ocean, and onto the shoreline and beaches.³ Cleanup crews responded to reports of tar balls as far away as Orange County, and one tar ball recovered in Manhattan Beach had the same oil “DNA” as the oil spilled at Refugio.⁴

31. Ultimately, the oil spill had far reaching impacts, including both economically and environmentally. California Governor Jerry Brown declared a state of emergency for Santa Barbara County the day following the spill.⁵ Cleanup costs have totaled \$150 million thus far, and Plains estimated that the

² Joseph Serna, “Refugio Oil Spill May Have Been Costlier, Bigger than Projected,” *Los Angeles Times*, August 5, 2015.

<http://www.latimes.com/local/lanow/la-me-ln-refugio-oil-spill-projected-company-says-20150805-story.html>.

³ Lara Cooper and Giana Magnoli, “Cleanup Under Way for Large Oil Spill Near Refugio State Beach,” *Noozhawk*, May 19, 2015, http://www.noozhawk.com/noozhawk/print/oil_spill_reported_on_coast_near_refugio.

⁴ Javier Panzar, Joseph Serna, and Matt Hamilton, “Big Oil Slick off Santa Barbara County Coast Sparks New Concerns,” *Los Angeles Times*, July 29, 2015, <http://www.latimes.com/local/lanow/la-me-ln-oil-slick-santa-barbara-county-20150729-story.html>.

⁵ Sam Frizell, “California Governor Declares State of Emergency After Santa Barbara Oil Spill,” *Time*, May 20, 2015, <http://time.com/3891739/california-oil-spill-jerry-brown-state-of-emergency/>.

1 environmental disaster would cost about \$269 million in its annual report.⁶ The
2 spill led to the closure of fisheries and beaches, as well as the death of local
3 wildlife.⁷ The Plains rupture was the largest coastal oil spill since BP's Deepwater
4 Horizon explosion in the Gulf of Mexico seven years ago.⁸

5 32. Below are pictures from the Plains spill. Additional pictures are
6 included in Exhibit 8.



21 ⁶ Alex Kacik, "Plains Arraignment, Motion to Seal Indictment Transcripts
22 Continued to July 28," *Pacific Coast Business Times*, June 30, 2016,
23 [http://www.pacbiztimes.com/2016/06/30/plains-arraignment-motion-to-seal-](http://www.pacbiztimes.com/2016/06/30/plains-arraignment-motion-to-seal-indictment-transcripts-continued-to-july-28/)
indictment-transcripts-continued-to-july-28/.

24 ⁷ Samantha Page, "Oil Company to Face Felony Charges Over Massive California
25 Spill," *Think Progress*, May 18, 2016,
26 [http://thinkprogress.org/climate/2016/05/18/3779335/santa-barbara-oil-spill-](http://thinkprogress.org/climate/2016/05/18/3779335/santa-barbara-oil-spill-indictment/)
indictment/.

27 ⁸ Brian Melley, "Company Charged in Oil Spill that Fouled California Beaches,"
28 *Phys.org*, May 17, 2016, [http://phys.org/news/2016-05-pipeline-firm-california-](http://phys.org/news/2016-05-pipeline-firm-california-oil.html)
oil.html.

Workers Conducting Clean-Up⁹



Arial View of Oil Stained Beaches and Clean-Up¹⁰



Beaches Damaged by Plains Oil Spill¹¹

⁹ Ibid

¹⁰ Ibid

¹¹ Lara Cooper and Giana Magnoli, "Cleanup Under Way for Large Oil Spill Near Refugio State Beach," *Noozhawk*, May 19, 2015, (*continued below*)



Park Closure Due to Plains Oil Spill¹²

SUBJECT PROPERTIES

33. The property owner and lessee subclass representatives and their respective subject properties are:

- Mark & Mary Kirkhart, 1520 Miramar Beach, Santa Barbara, California 93108 (APN 009-345-013)
- Jacques Habra, 3425 Sea Ledge Lane, Santa Barbara, California 93109 (APN 047-082-012)
- Alexandra Geremia, 9 Arroyo Quemada Lane, Goleta, California 93117 (APN: 081-190-003)

http://www.noozhawk.com/noozhawk/print/oil_spill_reported_on_coast_near_refugio.

¹² Alejandro Lazo and Erin Ailworth, "Pipeline in California Oil Spill Ordered Shut Down, Tested," *Wall Street Journal*, May 22, 2015, <http://www.wsj.com/articles/pipeline-in-california-oil-spill-ordered-shut-down-tested-1432319020>.

- Baciú Family LLC, vacant land at Arroyo Hondo, Goleta (APN 081-160-001-2; 081-170-001,3; 081-180-001-3, 6)

34. For purposes of preparing this declaration, I personally inspected the oil spill site, the exteriors of the above-listed properties, and the surrounding areas. I also am generally familiar with the beach-front neighborhoods stretching from Refugio State Beach to Orange County.

35. The persons to be included in the real property subclass are owners or lessees of: (1) residential beachfront properties on a beach that had oil from the Line 901 spill wash up onto the shoreline; (2) residential properties with a private easement to a beach that had oil from the Line 901 spill wash up onto the shoreline; and (3) residential properties that are within one-half ($\frac{1}{2}$) mile of a beach that had oil from the Line 901 spill wash up onto the shoreline.

36. The specific properties harmed by the Line 901 spill are determined by applying the above parameters to the final analysis developed by Dr. Mezić regarding where and when the oil flowed after entering the ocean, other reports regarding the impact of oil from the Line 901 spill, including interviews of brokers, residents, beach visitors, or other relevant people. Relying on Dr. Mezić's final analysis and my own research and analysis, the specific properties are identified using coastal segments where the shoreline oiling is considered to be significant and applying the distance and use criteria. The amount of oiling considered to be significant is discussed in the following section.

37. The analysis of Dr. Mezić relies on the NOAA's spill-response and cleanup classification of coastline areas into divisions and segments.¹³ The NOAA designations of divisions and segments divide up the coastal areas to "integrate field data on shoreline habitats, oil type, degree of shoreline contamination, spill-specific physical processes, and ecological and cultural resource issues. Cleanup

¹³ NOAA Shoreline Assessment Manual, 4th Ed., August 2013, p. 23.

1 endpoints must be established early so that appropriate cleanup methods can be
2 selected to meet the cleanup objectives.”¹⁴

3 38. The public, including property owners and lessees, rely on information
4 from the government to evaluate environmental cleanup and safety. Below is the
5 NOAA procedural flowchart,¹⁵ which lists the various steps required from the
6 initial spill through final approval and signoff that the cleanup is complete.



27 ¹⁴ Ibid., p. 1.

28 ¹⁵ Ibid., p. 20.

1 39. The Shoreline Assessment Manual requires responders to classify the
2 oiling based on distribution, thickness, and type. Types of oiling include fresh oil,
3 mousse (emulsified oil occurring over broad areas), tar balls (discrete
4 accumulations of oil less than 10 cm in diameter), tar, surface oil residue, and
5 asphalt pavements (cohesive, heavily oiled surface sediments).¹⁶

6 40. The Unified Command for the Refugio Incident oil spill response
7 established a three-phase cleanup schedule.¹⁷ According to the Refugio Response
8 website, nearly a year after the spill during the week of May 9, 2016, the oil
9 samples collected no longer matched the oil samples or “DNA” from the oil in the
10 pipeline at the time of the spill. Monitoring was reportedly continued on a monthly
11 basis until December 31, 2016.

12 41. Dr. Mezić analyzed the shoreline oiling data and identified the
13 amounts of oil distribution on each shoreline segment as “heavy,” “moderate,”
14 “light,” “very light,” and no oil observed (“NOO”). These classifications are
15 consistent with the classifications published in the Shoreline Assessment Manual.¹⁸
16 According to the Manual, the very light category tends to be areas where the oil
17 distribution is less than 1% over wide areas or very narrow strips of heavier oiling
18 in a given shoreline segment. Furthermore, Dr. Mezić reported that all tar ball
19 categories are mapped to the Very Light general oiling category.

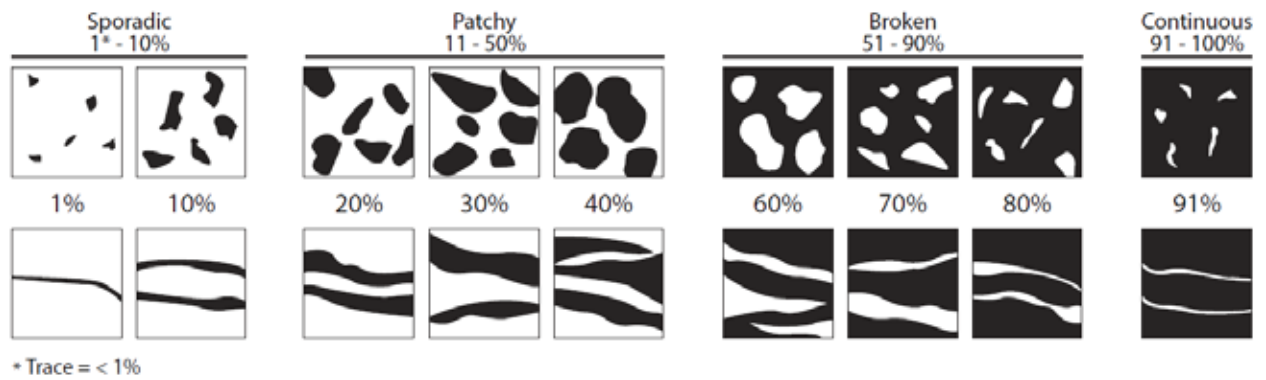
20 42. The NOAA Shoreline Assessment Job Aid Diagrams include Percent
21 Cover Estimation Charts for cleanup response teams to classify the beach oiling by
22 density and coverage.¹⁹ These are delineated in the following NOAA diagrams.

23
24
25
26 ¹⁶ NOAA Shoreline Assessment Manual, p. D-7.

27 ¹⁷ <http://refugioresponse.com/go/doc/7258/2833813/index.html>

28 ¹⁸ NOAA Shoreline Assessment Manual, p. 52.

¹⁹ Shoreline Assessment Job Aid, p. 33.



43. Using these oiling coverage ratios, a survey of coastal beach users was prepared to evaluate the amount of oiling before users would stop going to the beach.

44. The field survey results indicate that 90% of the respondents would not visit a beach if the amount of oiling on the beach was equal to or exceeded a coverage ratio of 1%.²⁰ The 1% coverage level represents the primary threshold used by NOAA to classify shoreline oiling as “light.” A copy of the survey and the responses are presented in Exhibit 13.

45. Dr. Mezić identified each shoreline segment by the classification of maximum oiling at any date, as shown on his shoreline oiling map. [See, Declaration of Igor Mezic, Ph.D., in Support of Plaintiffs’ Motion for Class Certification, filed concurrently, p. 13, Figure 2.] It shows oil contamination along the coast ranging from no oil observed to very light, light, moderate, or heavy. Again, light oiling is commensurate with at least 1% oiling coverage.

46. Based on Dr. Mezić’s analysis and the survey of beach visitors, the impacted shoreline areas are designated as light, moderate, and heavy oiling. Properties in the subclass are located adjacent to these shoreline areas. These impacted shoreline segments serve as the coastal reference points to which the other subclass criteria are applied.

²⁰ Shoreline Assessment Job Aid, NOAA, p. 33.

47. Specifically, the class is defined as: (1) residential beachfront properties on a beach, (2) residential properties with a private easement to a beach, and (3) residential properties that are within one-half (½) mile of a beach (collectively “Included Properties”) where oil from the Line 901 spill washed up, and where the oiling was categorized as Heavy, Moderate or Light. The included shoreline segments are identified in Exhibit 14.

48. Using GIS software and county assessor’s records, the approximate number of properties²¹ meeting the criteria for inclusion are as follows:

Properties Identified as Meeting Inclusion Criteria by County

County	Single Family Residential	Condo	Multifamily Residential*	Mobile Home Residence	Mobile Home Park	Vacant /Land
Santa Barbara	5,657	2,663	1,334	816	18	246
Ventura	4,837	3,162	765	127	2	180
Los Angeles	13,232	9,214	4,732	7	34	899
Total	23,726	15,039	6,831	950	54	1,325

*includes 2-4 unit dwellings

49. Pictures of the spill site and the subclass representatives’ properties follow.



²¹ This number is an estimate based upon the best available data. The actual properties will be identified during the valuation process.



View of the spill location site



View of the subject property located at 1520 Miramar Beach, Santa Barbara



View of the subject property located at 3425 Sea Ledge Lane, Santa Barbara



View of the subject property located at 9 Arroyo Quemada Lane, Goleta



View of subject property land located at Arroyo Hondo, Goleta

WATER FEATURE PREMIUMS

51. It is commonly known in the real estate and appraisal professions that proximity to water features (ocean, lake and river) increase property values and rental rates. Residents pay a premium for this luxury (beachfront amenity) despite the presence of naturally occurring oil seeps, which occasionally deposit oil droplets on beaches. This reality is factored into the premium paid by residents. The published literature that speaks directly to water proximity concludes that property values increase as access to water amenities increases.

52. The published literature indicates a strong relationship between water proximity and premiums paid for the proximity. Some of the studies analyzed focus on view premiums, while others identified premiums for being located on or near the beach. Early hedonic studies (a regression model) focused on distance from an amenity. As demonstrated by Sherwin Rosen, an economist at the University of Chicago and a pioneer of hedonic modeling, property values decline in a predictable fashion the further a property is from an amenity, whether that be an employment center or an amenity like Lake Michigan.²² Other studies indicate that ocean front properties command the highest premia, however the benefit declines with distance. While the studies report the existence of a proximity premium, a limit boundary on the premium is not reported. A summary of published literature is included as Exhibit 9.

²² Rosen, Sherwin. "Hedonic Prices and Implicit Markets: Product Differentiation in Pure Competition." *Journal of Political Economy*, 82 (1): 34 – 55.

Cropper, M.L., "Value of Urban Amenities." *Journal of Regional Science*, 23 (3): 359 – 374.

Noonan, Douglas, "Finding an Impact of Preservation Policies: Price Effects of Historic Landmarks on Attached Homes in Chicago 1990-1999." *Economic Development Quarterly*, 21 (1): 17 – 33.

1 53. The market value of a property is strongly influenced by physical
2 features, and also by legal requirements. The California Coastal Zone, established
3 by statute, extends inland generally 1,000 yards – which is slightly over one-half
4 mile – from the mean high tide line of the sea. The Coastal Zone is under the
5 jurisdiction of the California Coastal Commission, which regulates land use and
6 construction in coastal areas. The stated purpose of the Coastal Commission is to
7 protect the coastal assets for the citizens of the state. This Coastal Zone designation
8 is yet another reason I believe the one-half mile distance I am using is conservative.

9 54. In order to assess local perceptions, a survey of beach visitors was
10 conducted to evaluate the distance individuals are willing to walk to visit a beach.
11 Over 85% of the survey respondents stated that they would be willing to walk half a
12 mile to visit a beach. Of those people, over 39% stated that they would be willing
13 to walk one mile or more to visit a beach. Less than 15% of the survey respondents
14 stated that they would not be willing to walk at least half a mile to visit a beach. A
15 copy of the survey and the results of this survey are presented in Exhibit 13.

16 55. According to Brunnstrom's Clinical Kinesiology,²³ the average
17 customary walking speed is 82 meters per minute, or approximately three miles per
18 hour. At this speed, the average distance covered in a ten-minute walk is one-half
19 mile.

20 56. Therefore, unless a property has community access to a private beach
21 (e.g., Hope Ranch) or a deeded private access benefit, the water-amenity benefit is
22 established as properties located within one-half mile from the shoreline.

23 **VALUING ENVIRONMENTAL DAMAGES**

24 57. The Plains Oil Spill environmentally damaged the beaches and oceans
25 and effectively resulted in a loss of the coastal amenities for which property owners
26 and tenants pay a significant premium.

27 ²³ Houghlum, Peggy A., and Bertoti, Dolores B. Bertoti, Brunntstom's Clinical
28 Kinesiology, 6th Ed., Philadelphia: F.A. Davis Co., p. 547.

58. A literature review of valuing environmental damages is found in Exhibit 10. The fundamental framework for valuing such a loss-of-use, as well as nearly any other any real estate damage allegation, is set forth in the Detrimental Conditions Matrix. This matrix was first published in 1998, and is the basis for fundamental changes to the Uniform Standards of Professional Appraisal Practice (USPAP) that were published in 2002 and made effective January 1, 2003.

Detrimental Conditions Matrix

	Assessment	Repair	Ongoing
Cost	Cost & Responsibility To Assess Damage	Cost & Responsibility To Repair or Remediate	Ongoing Costs & Responsibility i.e., monitoring
Use	Impact on Use While Assessed	Impact on Use While Repaired or Remediated	Ongoing Impact on Use or Impact on Highest & Best Use
Risk	Uncertainty Factor	Project Incentive	Market Resistance

59. Advisory Opinion 9 of USPAP describes the “cost, use and risk” elements, with emphasis added, as follows:

Satisfying SR 1-4 Requirements:

When the appraiser addresses the diminution in value of a contaminated property and/or its unimpaired value, the appraiser must recognize that the value of an interest in impacted or contaminated real estate may not be measurable simply by deducting the remediation or compliance cost estimate from the opinion of the value as if unaffected (unimpaired value). Rather, cost, use and risk effects can potentially impact the value of contaminated property. Cost effects primarily represent

1 deductions for costs to remediate a contaminated
2 property. These costs are usually estimated by someone
3 other than the appraiser, and should include consideration
4 of any increased operating costs due to property
5 remediation. The appraiser should also be aware that the
6 market might not recognize all estimated costs as having
7 an effect on value. **Use effects reflect impacts on the**
8 **utility of the site as a result of the contamination. If the**
9 **contamination and/or its cleanup rendered a portion**
10 **of the site unusable, or limited the future highest and**
11 **best use of the property, then there could be a use**
12 **effect on value.** Risk effects are typically estimated by
13 the appraiser and often represent the most challenging
14 part of the appraisal assignment. These effects are derived
15 from the market's perception of increased environmental
16 risk and uncertainty. The analysis of the effects of
17 increased environmental risk and uncertainty on property
18 value (environmental stigma) must be based on market
19 data, rather than unsupported opinion or judgment.
20 In general, the unimpaired value of the property being
21 appraised can be estimated using sales comparison
22 approach (SR 1-4(a)), cost approach (SR 1-4(b)), and
23 income approach (SR 1-4(c)). Estimating the effects of
24 environmental contamination on real property value
25 usually involves the application of one or more
26 specialized valuation methods. These methods should be
27 consistent with the requirements related to the valuation
28 approaches in USPAP.

60. While the nine quadrants within the matrix may not all be applicable,
they should all be considered in the context of every assignment. While cost, use
and risk have all been considered, the use effects are central to this case.

61. Sales prices and rental rates consider the entire value of the property
including the use of associated amenities. When environmental damages do not
completely destroy the use of the property (e.g., owners and lessees still have the
utility of the house itself), they still deprive the owners or lessees of part of what
they paid for. In this case, the reasonable use of the valuable ocean amenity has
been eliminated for a period of time due to the oil spill.

62. In the context of the DC Matrix and USPAP AO-9, rental rates are
regularly utilized in determining loss of use calculations, which are simply standard
“bundle of right” issues. Rental rates are appropriate for calculating the lost value
of the water premium as they reflect the real estate market's perception of value for

1 the use of a property over a specific period of time. Furthermore, USPAP makes
2 clear that the “use” component should be considered in such an analysis, and the
3 literature is clear the rental rates provide an appropriate measure of such use, or loss
4 of use. Rental rates of properties with ocean frontage or proximity can be
5 compared with the rental rates of otherwise similar properties that do not have
6 ocean frontage or proximity. This is a standard paired-data analysis, and the
7 differential reflects the damage caused to the subclass properties.

8 63. This differential in rental rates can be converted to a rental rate per
9 square foot, which can then be applied to the subclass member’s properties.

10 **THE IMPACT OF OIL SPILLS ON PROPERTIES**

11 64. Oil that comes onto or nearby properties as a result of oil spills can
12 have a significant impact on owners’ and lessees’ benefits and enjoyment of the
13 property. This has been well recognized in the appraisal and real estate professions
14 for years and has been reflected in the literature on the topic. In particular, the
15 severity of the impact of the BP oil spill on properties resulted in a number of
16 published articles on this subject. These articles confirm what is generally known –
17 that oil on or around properties close to the beach significantly impacts the owners’
18 and lessees’ enjoyment of those properties, and the benefits, use, and values of such
19 properties are diminished.

20 65. A summary of relevant literature from the BP oil spill is included as
21 Exhibit 11.

22 66. In addition to the direct impact of contamination on a property,
23 economists recognize and identify negative information disclosure as a source of
24 property value diminution, based on adjacency, proximity, and perception. USPAP
25 Advisory Opinion AO-9 addresses many of these concerns. A summary of the
26 relevant literature is included in Exhibit 15.

27 67. To assess local perceptions, a survey of residents and beach visitors
28 was conducted to evaluate perceptions of whether the Plains Oil Spill negatively

1 affected the communities' ability to use and enjoy the beach and coastal amenities.
2 The survey was conducted in numerous beach communities located in Santa
3 Barbara, Ventura, and Los Angeles Counties. Only individuals residing in the
4 communities at the time of the oil spill were interviewed. Of those respondents
5 who had an opinion, a significant majority (176 of 257) reported that they were
6 aware of the spill and that it negatively affected their or their community's ability to
7 use and enjoy the beach. A copy of the survey and the results of the survey are
8 presented in Exhibit 16. The local survey results are consistent with published
9 research from other spills across the nation.

10 **USE OF MASS APPRAISAL**

11 68. Mass valuations of real estate have been established in the mainstream
12 of the appraisal profession since at least the 1950s and 1960s.²⁴

13 69. Mass appraisal is defined by the Dictionary of Real Estate (6th
14 Edition) as: "[t]he process of valuing a universe of properties as of a given date
15 using standard methodology, employing common data, and allowing for statistical
16 testing (USPAP, 2016-17 ed.)."

17 70. Mass appraisal methodologies rely on statistical tools to estimate
18 values of properties in an appropriate subclass geographic area. The valuation
19 methodologies employed in this approach should be conducted in conformance
20 with Appraisal Foundation, USPAP Standard 6, and the Standard on Mass
21 Appraisal of Real Property promulgated by the International Association of
22 Assessing Officers. Standard 6 requires appraisers to "employ recognized methods
23 and techniques" in defining the appropriate market area, identifying characteristics,
24 developing a model structure, calibrating the model, and applying the conclusions.

25 71. The mass appraisal methodologies often include regression models or
26 studies. There are two basic types of regression models, simple regressions (that use

27 ²⁴ Robert A. Blettner, "Mass Appraisal via Multiple Regression," *The Appraisal*
28 *Journal* (1969): 513-521.

one independent variable) and multiple regressions (that use multiple independent variables), which are also called hedonic models. On the other hand, the dependent variable is typically represented by price, (often represented as total price, price per square foot, price per acre, or price per unit). The dependent variable of price “depends” upon the independent variables. Independent variables often include features such as square footage, lot size, age, room counts, as well as pools, views or other amenities.

72. In the context of real estate damage economics, regressions allow for comparison of property attributes across multiple neighborhoods, thereby statistically controlling for neighborhood locational and socio-economic differences. The subject neighborhood being studied is conventionally called the “test” area, while the comparable neighborhoods are called “control” areas.

73. Simple linear regression models may be utilized as trend studies. The simplest forms are “time-value” models where a single independent variable “time” is graphed on the “x-axis” and the dependent variable “value” is graphed on the “y-axis.”

74. The positive attributes of simple regressions are that the results are presentation friendly. They can easily accommodate time, size, locational attributes, or a before/after event. They can also generate linear (straight line) and curvilinear or polynomial (curved line) outputs. The main drawback in simple regressions is they use only one independent variable.

75. Multiple regression techniques use multiple independent variables. As they are multi-dimensional (multi-variable), they cannot be graphed. Instead statistical tables are used to present the output and analysis. Typically, these tables include (1) summary input tables, (2) descriptive statistic tables, (3) residual tables, and (4) descriptive ANOVA tables.

76. Multiple regressions use multiple independent variables. In other words, they specifically account for variables such as a property’s size, room

1 counts, age, condition and amenities (fireplace, pool, spa, view, etc.). Multiple
2 regressions not only accommodate multiple independent variables, but they can
3 facilitate studying several test and control neighborhoods.

4 77. Furthermore, a significant advantage of mass appraisal techniques is
5 that regressions are premised upon the concept of central tendency, where the data
6 groups or clusters around a central trend line. The phrase ‘central tendency’ was
7 first used in the late 1920s. The tendency of quantitative data, for homogeneous
8 market data such as ocean-oriented housing, is to cluster around some central value.
9 The central value is commonly estimated by the mean, median, or mode, whereas
10 the closeness with which the values surround the central value is commonly
11 quantified using the standard deviation or variance.

12 78. Measures of central tendency, or what are commonly called averages,
13 answer the question: “Is there a single number that best represents the variable in
14 question?” With ocean-oriented residential properties, a mass appraisal technique
15 is not only efficient, but also appropriate and advantageous. Measures of the
16 independent variables are readily available and can be reliably quantified. Thus, all
17 subclass properties, including those in pockets with more limited market data, can
18 benefit from the large amounts of data and the study as a whole.

19 79. Exhibit 12 contains a chart setting forth an illustration of simple and
20 multiple regressions.

21 **APPLICATION TO THE PLAINS OIL SPILL**

22 80. When an oil spill fouls the ocean and beaches, the local residents lose
23 the full use of their property, benefits for which they paid a significant premium.
24 The well-established valuation models previously described allow me to reasonably
25 calculate the value of that lost premium.

26 81. The class of properties harmed by the Plains Oil Spill have been
27 determined based on shoreline oiling conclusions developed by Dr. Mezić
28 discussed previously, surveys of residents and beach visitors, and my professional

1 assessment of the geographic scope of properties impacted by the oil in the ocean
2 and washing onto beaches and properties. The subclass includes thousands of
3 properties.

4 82. Field inspections of the subclass representatives' developments and
5 comparable developments confirmed that the potential subclass representatives'
6 developments have uniform residential property characteristics and there is ample
7 comparable market data.

8 83. During the property inspections, it was noted that all of the properties
9 are located on or near the California shoreline, all of the properties are residential
10 properties or land, and all lost the reasonable use of the beach as a result of the
11 Plains Oil Spill. As owners of properties with ocean proximity routinely pay
12 significant premiums for this amenity, an oil spill would obviously interfere with a
13 reasonable use of these natural resources. Given the location of the oiling, the
14 property types impacted, and the amount of data available for analysis, the use of
15 mass appraisal is both appropriate and efficient.

16 84. As discussed, mass appraisal techniques are well suited to measure
17 diminution in value, and the concurrent loss of use and enjoyment, resulting from
18 environmental issues. USPAP Standard 6 sets forth mass appraisal as an accepted
19 methodology. The professional literature provides further support for the use of
20 mass appraisal techniques. Indeed, mass appraisal and regression techniques are
21 relatively common within the appraisal profession.

22 85. A valid mass appraisal should encompass similar property types,
23 property characteristics, and market conditions. The analysis needs to have
24 adequate data to control for the contamination or externality. With reasonable
25 similarities in the properties, uses, market areas, and defined environmental

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1 characteristics, property interest defined in a class action can be meaningfully
2 analyzed.²⁵

3 86. Residential unimproved land is influenced by similar locational
4 amenities as improved properties, as reflected in unimproved, coastal land values.
5 Specific locational attributes tend to be reflected in land values. As beach oiling
6 deprives the community of ocean use, land owners and tenants lose the incremental
7 premium paid for being near the coast and are harmed for the period of the spill.
8 Some unimproved parcels are acquired exclusively for recreational uses, most
9 notably around Hollister Ranch and other more-rural areas in Santa Barbara
10 County; these include undeveloped beachfront parcels as well as undeveloped
11 parcels within ½ mile of a beach. Other unimproved parcels, especially in
12 congested areas in Ventura and Los Angeles Counties, are used for beach parking
13 or other temporary uses directly associated with the coastal amenity. In each case,
14 however, the investment expectations of an owner or tenant reflect the carrying cost
15 of the premium paid for beach proximity. Since the owner or tenant is deprived of
16 the premium or amenity benefit, the economic loss can still be quantified as with
17 the improved properties.

18 87. A further benefit is mass appraisal allows the appraiser to reconcile the
19 quality and quantity of data available and analyzed, while ensuring that standards of
20 accuracy are maintained.²⁶ These standards of accuracy include such tests as
21 goodness-of-fit statistics and model performance statistics.

22 88. I have performed similar regression analyses numerous times. For
23 example, I have conducted statistical regressions involving contaminated real estate
24 in multiple markets including California, Nevada, Florida, Missouri, Michigan,
25 Idaho, the Bahamas and the Marshall Islands.

26 ²⁵ Thomas O. Jackson, "Real Property Valuation Issues in Environmental Class
27 Actions," *The Appraisal Journal* (2010): 141-149.

28 ²⁶ USPAP, Standards Rule 6-7.

1 89. Based on the USPAP standards and literature described in the prior
2 sections, I can reliably assess the damages suffered by those property owners and
3 lessees through a rental analysis. The analysis shall include:

- 4 • Data sampling and verification,
- 5 • Using geospatial analysis (GIS) and property characteristics to classify
6 the affected properties into appropriate subclasses,
- 7 • Data checking and verification of data for both class (test) and control
8 areas, and
- 9 • Quality control.

10 90. After determining the monthly market rental rates for each property,
11 the market rent can be divided by the square footage of the home, which yields a
12 rental rate per square foot. By subtracting this rental rate per square foot of the
13 ocean-oriented properties from otherwise similar non-ocean oriented properties, the
14 incremental value attributed to the ocean proximity can be derived.

15 91. As described above, rental rates are the proper basis for performing
16 loss of use calculations. Further, because the oil spill was cleaned up over a period
17 of time, it is further clear that the loss of use and applicable rental rates should be
18 utilized in computing any damages.²⁷ This approach is essentially an income
19 approach both in terms of a rental survey and the calculations for loss of use over
20 time. Furthermore, it utilizes a paired-rental analysis (similar to a paired-sales
21 analysis) to measure the incremental value of the ocean frontage or proximity.

22 92. The method to determine damages for a proposed subclass in this case
23 is mathematically straight forward. The subject properties enjoyed valuable
24 amenities associated with ocean proximity, but for the Plains Oil Spill. As a result
25 of this spill, the subject properties effectively lost those amenities for a period of
26 time. The period of damage will be calculated during the period that the oil spill

27 ²⁷ Scott B. Arens, "The Valuation of Defective Properties: A Common Sense
28 Approach," *The Appraisal Journal* (1997): 143-148.

effectively caused property owners or lessees to lose the reasonable use of their water amenities. This analysis considers past damages and is therefore retrospective. The following steps enumerate how the analysis can be completed once all the remaining facts are known and analysis completed:

Step 1 - Determine the Specific Subclass Area: As described previously, the properties harmed by the Plains Oil Spill are determined based on beach oiling conclusions developed by Dr. Mezić regarding where and when the oil flowed after entering the ocean, surveys of residents and beach visitors, and my professional assessment of the geographic scope of properties impacted by the oil in the ocean and on beaches.

Step 2 – Identify Relevant Property Characteristics: The relevant property characteristics (location, square footage, age, lot size, room counts, garage, amenities, etc.) will be noted for all properties in the mass appraisal. Additionally, each property will be coded in terms of ocean-front, ocean private easement, ocean close, or ocean community (but not in close proximity). All market data will be entered into an Excel spreadsheet. The following diagram sets forth these parameters and controls for the study:

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	A Ocean Proximity < 0.5 Mile		B Ocean Proximity > 0.75 Mile
1	Ocean Front	vs.	Ocean Community
2	Ocean Private Easement	vs.	Ocean Community
3	Ocean Close	vs.	Ocean Community

Step 3 - Rental Transactions within the Subclass or “Test” Area: This step involves the research of rental data, which is obtained from the local MLS services and cross-referenced with public records. Each rental comparable will also be similarly coded.

Step 4 - Rental Transactions in the Non-Subclass or “Control” Areas: The control areas include properties not located near the beach (at least 0.75 miles away), but that are otherwise similar to the homes located within the subclass. To illustrate this process, a paired-data analysis simply compares home rental rates with and without the beach proximity amenities that were effectively lost for a period of time:

Rental rate of house with beach proximity:

2,000 SqFt @ \$7,000/Month

\$3.50/SqFt/Month

Less:

Rental rate of house without beach proximity:²⁸

2,000 SqFt @ \$4,000/Month \$2.00/SqFt/Month

Incremental Loss of Use: \$1.50/SqFt/Month

Step 5 - Simple Regression Analysis: A simple regression provides a graph that generates a trend line based upon the rental rate per square foot, over time. This graph can then be utilized to examine the quality of the data and identify any outlying market data that requires additional verification or analysis.

Step 6 - Multiple Regression Analysis: As discussed, a multiple regression is a mass appraisal technique that mathematically accounts and adjusts for multiple independent variables within the data set, such as location, square footage, age, lot size, room counts, garage, amenities, etc. Ultimately, the multiple regression will produce the incremental rental rate which reflects the loss of use for ocean proximity for each subclass property. Essentially a multiple regression is making a calculation similar to this for each subclass property, in order to determine the rent difference applicable for each property.

Step 7 – Cleanup Duration Analysis: As discussed, damages are a function of the length of time until the shoreline areas have been cleaned up or remediated. As stated earlier, the Unified Command reported that cleanup

²⁸ Note that the paired data is of an otherwise similar home in terms of size and age, and located in the same general location greater than 0.75 mile from the ocean.

1 and monitoring for continued shoreline oiling terminated in December 2016.
2 The Shoreline Assessment Manual states that the Cleanup Assessment
3 Review Team is responsible for inspecting segments to determine if they
4 require further treatment.²⁹ Once complete, the Unified Command is
5 responsible for approving the termination of cleanup activities at each
6 segment.³⁰ To date, documentation regarding these two activities reportedly
7 is unavailable. Even if data regarding final termination of cleanup activities
8 at the section level ultimately is incomplete, Dr. Mezić has advised that – as
9 part of his modeling process – he is able to incorporate the duration of the
10 spill impact on each section of the shoreline. These projections will allow
11 me to conclude a final duration for each segment included in the class area.
12

13 **Step 8 – Property Damage Calculation:** Using the size of each property in
14 the subclass, the rental or incremental use loss, and the duration of the lost
15 use, the damage calculation for each property can be concluded using the
16 following mathematical formula:
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18 Subclass Property SqFt X Incremental Use Loss/Month X Months of Lost
19 Use = Damage
20

21 For example,
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23 2,500 SqFt X \$1.50 Incremental Use Loss/Month X 2.5 Months of Lost Use
24 = \$9,375 Damage
25
26

27 ²⁹ NOAA Shoreline Assessment Manual, p. 41.

28 ³⁰ Ibid., p. 42.

1 93. I conducted a preliminary analysis utilizing Santa Barbara market data.
2 This preliminary analysis demonstrates the fundamental calculations and the
3 availability of market data. In each of these calculations, rental properties located
4 within half a mile from the beach (beachfront or accessible) are compared with
5 otherwise similar properties located over three-quarters of a mile away from the
6 beach (ocean community). All of the analyses were completed on a “rental rate per
7 square foot basis” with a final “damage per month” being calculated, also on a “per
8 square foot basis.”

9 94. This type of paired-data analysis can be completed in various
10 neighborhoods and regions along the coast where oiling soiled the beaches. This
11 damage figure would then be applied to the other similar homes in that area using
12 both simple and multiple regressions. There is abundant and reliable market data.
13 In a full analysis, this data could be utilized to determine damages for those
14 residences in the subclass area, by multiplying the damage per month, with the
15 square footage of the subclass member, by the period of time the damage occurred.

16 95. Four sets of data were researched; (1) beach-front homes that had
17 rented, (2) homes with private easements to the beach that had rented, (3) homes in
18 close proximity (less than half a mile) to the beach that had rented, and (4) homes
19 that are otherwise similar to the prior homes, but are located at least three-quarters
20 of a mile from the beach, that had rented. All data was derived from the Santa
21 Barbara Multiple Listing Service (MLS). The results of the three preliminary
22 comparisons, and brief descriptions, are as follows:

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Ocean Front v. Ocean Community

No	Item	Rental Rate	SqFt	Rental Rate/SqFt	Source
1	Beach-Front House Rental Rate Per Month	\$15,000	2,800	\$5.36	Multiple Listing Service (MLS)
2	Local Inland House Rental Rate Per Month	\$3,200	2,273	\$1.41	Multiple Listing Service (MLS)
3	Damage Per Month			\$3.95	Calculation

Ocean Private Easement v. Ocean Community

No	Item	Rental Rate	SqFt	Rental Rate/SqFt	Source
1	Ocean Private Easement House Rental Rate Per Month	\$7,500	2,567	\$2.92	Multiple Listing Service (MLS)
2	Local Inland House Rental Rate Per Month	\$3,200	2,273	\$1.41	Multiple Listing Service (MLS)
3	Damage Per Month			\$1.51	Calculation

Ocean Close v. Ocean Community

No	Item	Rental Rate	SqFt	Rental Rate/SqFt	Source
1	Ocean Close House Rental Rate Per Month	\$5,800	2,155	\$2.69	Multiple Listing Service (MLS)
2	Local Inland House Rental Rate Per Month	\$4,500	2,521	\$1.79	Multiple Listing Service (MLS)
3	Damage Per Month			\$0.91	Calculation

Ocean Close v. Ocean Community

No	Item	Land Rental	SqFt	Rental Rate/SqFt	Source
1	Ocean Close Land Rental Rate Per Month	\$2,625	7,500	\$0.35	Multiple Listing Service (MLS)
2	Local Inland Land Rental Rate Per Month	\$1,067	7,000	\$0.15	Multiple Listing Service (MLS)
3	Damage Per Month			\$0.20	Calculator

98. As with the improved rentals, this data can then be applied to measure the damage incurred by each subclass member. For example, if a subclass member has a parcel containing 7,000 square feet, and the time of ocean impairment is two months, the total damages can be determined as follows:

7,000 SqFt X \$0.20 Incremental Use Loss/Month X 2 Month of Lost Use = \$2,800

99. This research and example demonstrates the application of an analysis using market rental data. Similar calculations, refined through regression analysis, can then be applied to properties within the subclass to determine the damages for each property. The full quantification of real estate damages will be the subject of a future report.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct.

Executed on September 25, 2017, at Laguna Beach, CA.


Randall Bell, PhD, MAI

EXHIBIT 1

EXHIBIT 1 - QUALIFICATIONS OF RANDALL BELL, PHD, MAI

Dr. Bell specializes in real estate damage economics and valuation. This includes environmental, geotechnical, construction defects, natural disasters, eminent domain and other conditions involving a wide variety of property types. He is experienced in complex valuation and diminution-in-value studies and damage issues for government, major corporations, oil and utility companies and property owners. He is licensed in various states and has testified as an expert in multiple courts.

EDUCATION

Doctoral Studies: Fielding Graduate University, PhD, Human and Organizational Systems – Dissertation: *Post Traumatic Behaviors: The Socioeconomic Reasoning of Homeowners Who Voluntarily Remained in the Aftermath of Hurricane Katrina*

Graduate Studies: UCLA - MBA Degree, Real Estate Emphasis

Professional Studies: Appraisal Institute – MAI; UCLA Extension, Certificate in Real Estate

Undergraduate Studies: BYU - BS Degree, Finance and Accounting

LICENSES AND MEMBERSHIPS

Certified General Real Estate Appraiser (AG1672)
Appraisal Institute - MAI Designation (M9360)
State of California - Real Estate Broker (01111436)
International Right of Way Association - Member (06746314)
Bureau of National Affairs (BNA) – Advisory Board Member
American Statistical Association - Member
Econometric Society - Member
American Economics Association (AEA) – Member
Association of Social Economics - Member

APPRAISAL INSTITUTE

Instructor - Continuing Education Requirements Current
Appointed to the Regional Ethics and Counseling Panel
Elected to the Advisory Council, 1996, 1997
Chairman of the Litigation Seminar Committee, 1994, 1995
Member - Task Force on Advanced Education Standards, 1999
Member – Committee for Statistical & Survey Standards, 1999-2002
Recipient of Year's Outstanding Article in the Appraisal Journal – Swango Award, 2002, 2008
Member of the National Strategic Planning Committee, 2013-2014

EXPERT WITNESS

United States District Court, Court Appointed Appraiser, State Superior Courts, Assessor's Boards, United States Bankruptcy Court, Arbitration & Mediation

BOOK AUTHOR

Real Estate Damages: Applied Economics and Detrimental Conditions Third Edition, Appraisal Institute - *Chicago, Illinois* - Author

Real Estate Damages: An Analysis of Detrimental Conditions Appraisal Institute - *Chicago, Illinois* - Author

The Appraisal of Real Estate – 14th Edition Appraisal Institute - *Chicago, Illinois* – Contributing Author

Real Estate Investing for Dummies – 3rd Edition – John Wiley & Sons – *Hoboken, New Jersey* - Technical Editor

Real Estate Valuation in Global Markets Second Edition, Appraisal Institute - *Chicago, Illinois* – Contributing Author

Applications in Litigation Valuation Appraisal Institute - *Chicago, Illinois* – Contributing Author

Valuing Contaminated Properties Appraisal Institute - *Chicago, Illinois* – Contributing Author

Strategy 360: 10 Steps to Creating a Complete Game Plan for Business & Life Owners Manual Press – *Laguna Beach, California* - Author

Conversations On Success – Chapter *Insight Publishing* – *Sevierville, Tennessee* – Contributing Author

Owners Manual Series: Quick-Ref, Home, Property, Business *Owners Manual Press* – *Laguna Beach, California* - Author

Disasters: Wasted Lives, Valuable Lessons *Tapestry Press, Irvine Texas* – Co-Author

PROFESSIONAL BACKGROUND

Dr. Bell specializes in real estate damage economics. He served as the CEO of Bell Anderson and Sanders, LLC for 15 years and led the Real Estate Damages practice of

Price Waterhouse, which later merged to become PricewaterhouseCoopers. He was an independent real estate appraiser, analyst and consultant from 1986 to 1997.

Dr. Bell has completed considerable research in the field of property damages and detrimental conditions. These include Chernobyl, Hiroshima, Hanford Washington Site, the 1960 Chile Earthquake, the 1964 Alaska Earthquake, the World Trade Center Bombing, the Oklahoma City Bombing, the Jarrell Texas Tornadoes, Mt. St. Helen's Volcano, the Royal Gardens Subdivision destroyed by the Hawaii Volcanoes, Waco Texas, Oklahoma City, Weldon Springs Missouri, Times Beach Missouri, Rocky Flats Colorado, the Manoa Hawaii Landslides, Woburn Massachusetts, Hinckley, California and many others.

His career has been profiled by the *Wall Street Journal*, *Today's Realtor*, the *Los Angeles Times*, the *Associated Press*, *The San Francisco Chronicle*, *People Magazine*, and *The Chicago Tribune* and on various television broadcasts by all major networks and CNN. He has been quoted by *USA Today*, the *New York Times*, *Harper's Magazine*, *Time Magazine*, and *US News and World Report*, as well as the media in Europe, Australia and Japan.

SELECTED ASSIGNMENTS

Bikini Atoll Nuclear Testing Sites: Retained by the Nuclear Claims Tribunal to determine the damages caused by radioactive contamination and nuclear fallout as a result of nuclear testing on the Bikini Atoll in the Marshall Islands. This is the largest environmental contamination case in the history of the world. Involved radioactive, cultural resource and natural damage issues. Testified before the Nuclear Claims Tribunal on two occasions.

World Trade Center Site – New York: Retained by the Lower Manhattan Development Corporation (an entity created by the City and State of New York) to determine the value of the WTC site in the aftermath of the September 11th tragedies.

United Flight 93 Crash Site: Computed the impact on value of the coal mining fields where Flight 93 crashed on September 11th. Retained by the property owner.

Hurricane Katrina: Retained as a consulting expert on the Murphy Oil Spill case in the aftermath of Hurricane Katrina, which resulted in oil contamination over large portions of Saint Bernard's Parish in the aftermath of the hurricane. Retained by Murphy Oil Company.

BP Oil Spill: Retained as a consulting expert on the BP Oil Spill case, the largest oil spill in United States history.

Caribbean Resort Hurricane Damage: Retained as a consulting expert to compute the impact on value of a major Caribbean hotel resort as a result of extensive damage from Hurricane Omar.

Tulum Mexico: Computed the damages caused by a National Park overlay being placed by the Federal Government on a large ocean-front proposed resort site.

Little Gas Shack Oil Spill - Kauai, Hawaii: Computed the damages, if any, caused to multiple commercial properties as a result of a gasoline and oil spill in a resort bay. Retained by an oil company.

LA Metro Mall Landfill: Estimated the effect of an encapsulated landfill on present and future commercial property values. The proposed retail development was to have been constructed on top of a contaminated solid waste landfill.

Honeywell New Jersey Landfill: Computed the proximity damages, if any, resulting from landfill site, in the process of remediation, on adjacent property values. Retained by Honeywell.

Stringfellow: Determined the diminution in value on nearby properties that are in proximity to Stringfellow, which is the largest inactive liquid disposal hazardous waste facility in California.

Property Tax Assessment Boards: Retained both as an agent and appraiser in numerous assessment hearings, including overseeing a portfolio valued in the hundreds of millions of dollars.

Tiverton Rhode Island Gas Company: Measured the diminution in value, if any, of nearby residential properties with a site with 1800's historic and non-recurrent buried coal gasification waste materials which caused ground water contamination below actionable levels.

Doe Run Lead Contamination, Missouri: Class action suit involving Doe Run, which operates the world's largest secondary lead smelter. Calculated the diminution in value, if any, caused by surface soil contamination which resulted in numerous residential properties in being razed.

Straight Lane Texas House: Case involving the largest house in the United States. Calculated the diminution in value resulting from a massive explosion and subsequent fire. The property is located on what is informally called, "Billionaire Row" in the Dallas Texas area. Field work included inspecting the nation's largest estate homes from coast to coast.

City of Chico Landfill: Measured any diminution in value from groundwater contamination from burn ash on nearby developments.

Cooper Cameron, Texas: Measured the impact, if any that offsite TCE groundwater contamination that had migrated underneath a high-end neighborhood in the Houston Texas area.

Jack Brown Cleaners, Austin Texas: Measured the impact of PCE and TCE groundwater that had migrated under a condominium project.

Lennar LNR Bankruptcy: Appraised a major portfolio of numerous subdivisions and commercial developments in California, New Jersey, Florida, Texas, Nevada and Arizona for bankruptcy purposes.

Gasoline Pipeline Transfer Site – Arkansas: Studied the impacts, if any, that MTBE soils contamination had on an adjoining property owner.

SunCal Development - Palm Springs Area: Conducted market trends related to a breach of contract case involving a large subdivision.

BFI Landfill – Los Angeles Area: Estimated the value of on operating landfill as if with and without permits and as of three historical dates. This is one of the largest operational landfills in the Los Angeles area.

Staples Center: Retained by the City of Los Angeles to appraise numerous parcels being acquired through eminent domain for the assemblage and development of the Staples Center.

FBI Identified Terrorist Target: Calculated the damages, if any, caused to a large landmark property in the Southern California area which had been identified by the FBI as a specific terrorist target in the aftermath of the attacks of September 11, 2001.

Dole Pineapple Plantation - Hawaii: Computed the diminution in value, if any, resulting from the State's largest contamination case involving pesticides.

Chevron Service Station: Computed the diminution in value, if any, resulting from a leading underground storage tank (LUST) in the San Diego area. Retained by Chevron.

Monsanto: Retained as a consulting expert in a case where toxins were illegally disposed in a creek and spread throughout a town. Many homes, churches, businesses and schools were deserted or razed. This is considered by some to be the most notorious environmental contamination case in the history of the United States.

Passaic River, New Jersey: Studied the impact contaminated sediments in a major waterway on the surrounding economy. This case involved a NPL Superfund site.

Whitaker Bermite: Analyzed the effect of unexploded ordinance and perchlorate contamination on development property and proximal neighborhoods. Retained by the facility.

ATK Rocket Facility: Analyzed the effect of perchlorates and other chemicals on rural residential property valuations. The facility produces solid-fuel rocket bodies for the

Space Shuttle. The contamination impacts the air and soils surrounding the facility. Retained by the facility.

Ko Loco Hawaii Dam Failure: This major dam failure caused fatalities and millions of dollars of property damage to a small village. Assigned to estimate the residual effect of the dam failure on local residential property values.

Big Rock Nuclear Power Plant: Analyzed the impact, if any, that a safe-storage nuclear fuel storage system had on surrounding property values at a decommissioned nuclear power generating facility. Retained by the U.S. Justice Department.

GM - Delphi Plant, Michigan: Involved an underground TCE plume migrating from an auto parts manufacturing facility to under a nearby home neighborhood. Analyzed historic market trends and regression data, as well as developed case studies to estimate the impacts, if any, on value. Retained by Delphi.

Paducah Kentucky Radioactive Contamination: Developed regression data for neighborhoods in proximity to a gaseous diffusion plant which had released radioactive contamination.

Luke Walton Home: Determined the damages, if any, caused to neighbors from parties hosted by NBA player Luke Walton. Retained by Luke Walton.

East Chicago Hazardous Landfill: Computed the value of a hazardous waste landfill in Indiana which is licensed to receive hazardous waste. Included a complete cash flow analysis of the landfill over the expected life of the operations.

Northridge Earthquake: Retained to estimate the damages to numerous properties in several cases resulting from the earthquake. One assignment included determining the diminution in value to high-rise properties in downtown Los Angeles due to weld fracturing and alleged construction defects.

LA Riots: Retained to compute fire damages to numerous properties in one of the worst civil uprisings in the history of the United States.

Guam Landfill: Computed the damages caused by the condemnation of the Tolofufu Falls and Sergeant Youki Cave site for the purpose of constructing the only operational landfill in Guam. Involved cultural resource and natural damage issues. Also involved market research in Guam and Saipan.

Milwaukee Baseball Stadium: Studied the impact on proposed development resulting from a superfund site associated with a baseball stadium. Field research involved visiting and documenting the surrounding uses at every major-league baseball stadium in the United States and Canada.

MID Power Lines, Modesto California: Appraised numerous properties on a power line corridor for eminent domain purposes. Research included issues of EMF, crop dusting impairment, agricultural impacts, conservation easements and hindrance of future development. Retained by the utility company.

Estate Home Construction Defects: Determined the diminution in value caused by various construction defects of large estate homes and condominiums in Beverly Hills, Bel Air, Homby Hills, Santa Monica and West Los Angeles.

Ft Lauderdale Florida Condo Construction Defects: Determined the diminution in value caused by fire pipe leakage and related mold allegations.

Disneyland: Computed the part-take damages caused to Disneyland as a result of a freeway widening project. Retained by Cal-Trans.

Getty Museum: Determined the diminution in value, if any, to a neighboring property nearby the newly constructed Getty Museum in Los Angeles. Retained by the Getty Museum.

Avila Beach Oil Spill: Computed damages caused by a 300,000-gallon spill. According to a front-page article in the Los Angeles Times, Avila Beach is one of California's largest contamination cases. Contacted by both plaintiff and defendant in the case.

Via Estoril Landslides in Laguna Niguel: Computed damages caused by the sudden 125-foot landslide that destroyed seven ocean-view homes.

Crime Scene Stigma: Consulted in calculated economic damages caused by various crime scenes, including the Jon Benet Ramsey house, the Heaven's Gate Mansion in Rancho Santa Fe and the OJ Simpson and Nicole Brown Simpson Condominium, Andrew Luster House.

Nebraska Floods: Estimated damages caused by residential construction within a flood zone.

Airport Noise Diminution in Value Studies: Calculated the diminution in value caused by the proposed construction of airports in Hawaii, Washington, California and Texas.

Oil Refinery: Studied the diminution in value resulting from an oil refinery leak in Long Beach. Retained by ARCO.

New Jersey Durham Woods Pipeline Explosion: Researched the attributes of market resistance (stigma) associated with a catastrophic pipeline explosion that destroyed eight apartment buildings.

Hawaii Tank farm Leak: Computed the diminution in value resulting from a tank farm leak in Maui, Hawaii. Retained by Chevron, Shell and Unocal.

ARTICLES AND PAPERS

Project Delay Economics *The Appraisal Journal*

Analysis of Environmental Case Studies *The Appraisal Journal*

The Impact of Detrimental Conditions on Property Values *The Appraisal Journal*

Diminishing Diminution: A Trend in Environmental Stigma *Environmental Claims Journal*

Basic Due Diligence *Environmental Claims Journal*

The Impact of Airport Noise on Residential Real Estate *The Appraisal Journal*

The Impact of Megan's Law on Real Estate Values *Valuation Insights and Perspectives*

Ten Standard Classifications of Detrimental Conditions *Right of Way Magazine*

Quantifying The Diminution In Value Due To Detrimental Conditions: The Theory and Application to Environmentally Contaminated Properties *Environmental Claims Journal*

Medical Office Building Appraisal *The Appraisal Journal*

Assessing Diminution in Value – A Methodology for Categorizing Detrimental Conditions *Right of Way*

Detrimental Conditions: A Profile of Valuation Methodologies with Environmental Contamination, Crime Scene Stigma and Natural Disaster Case Studies *Paper presented to the National Symposium of the Appraisal Institute in Washington DC.*

Valuation of Contaminated Property *The Bureau of National Affairs, Inc.*

Contaminated Waterways and Property Valuation *The Appraisal Journal*

The Impact of Asbestos on Real Estate Values *The Appraisal Journal*

Climate Change and Real Estate Economics *The Bureau of National Affairs, Inc.*

SEMINAR AUTHOR

Real Estate Disclosure Seminar: Author and instructor of a one-day seminar published and sponsored by the Appraisal Institute that addresses the responsibility of appraisers, brokers and agents to make a full disclosure of the known conditions associated with a property.

Detrimental Conditions Seminar: Author and instructor of a one-day seminar published and sponsored by the Appraisal Institute. This seminar illustrates a valuation methodology for categorizing numerous Detrimental Conditions (i.e., environmental contamination, natural disasters, geotechnical issues, construction defects, market conditions, imposed conditions, etc.) and quantifying the diminution in value. It was approved in all 50 states by each appraisal licensing agency and the California State Bar for continuing education credit, and has been taught nationwide and internationally.

DIMINUTION-IN-VALUE ISSUES

ADA; Absorption; Airport Noise; Asbestos; Benign Issues; Bonds; Condemnation; Construction Defects; Crime Scene Stigma; Deferred Maintenance; Easements; Earthquake; Economic Decline; EMF; Environmental Contamination; Flood Damage; Geotechnical; Landfills; Litigation; Market Conditions; Natural Disasters; Neighboring Construction; Pipeline Explosion; Riots; Sewage Treatment Plant; Soil Subsidence; Traffic Noise; Tunneling; View Diminution

INTERESTS APPRAISED

Fee Simple Interest; Leased Fee Interest; Lease Hold Interest; Sandwich; Interest; Majority & Minority Fractional Interests

FUNCTIONS OF APPRAISALS

Absorption Studies; Acquisition; Assessor Disputes; Bankruptcy; Bond Financing; Construction Loans; Diminution in Value; Disposition; Divorce Settlement; Donation; Environmental Effect
Studies; Estate Settlement; Excess Land; Exchanges; Fair Value Issues; Feasibility Studies;
Foreclosure; Fraud; Ground Lease Renewal; Highest and Best Use Analysis; Income Tax Appeal;
Investment Analysis; Judicial Foreclosure; Review Appraisal; Lease Negotiations; Lease Renewals;
Litigation Support; Loan Review; Market Trend Studies; Mortgage Lending; Negotiation;
Partnership Dissolution; Portfolio Evaluation; Property Tax Appeal; Redevelopment Zone Studies; Refinancing

SPEECHES AND SYMPOSIUM PRESENTATIONS

Dr. Bell has spoken at numerous events throughout the United States, Canada, South America and Asia. Following are some examples of these presentations:

Analyzing the Effects of Environmental Contamination on Real Property Appraisal Institute, Dallas, Texas

Environmental Damage Economics *American Bar Association, New Orleans, Louisiana*

The Rebuttal of Junk Science in the Courtroom *Appraisal Institute, Newport Beach, California*

Exposing & Attacking Junk Science *Appraisal Institute, Reno, Nevada*

Airport Noise & Property Values, *FAA National Conference, Ft. Lauderdale, Florida*

Socio-Economics & Real Estate *University of Utah, Salt Lake City, Utah*

Assessing the Damages: Valuing Stigmatized Properties *BC Land Summit, Vancouver, BC Canada*

Property Valuation & Tax Appeals *IPT Property Tax Symposium, Palm Springs, California*

Real Estate Damage Economics *Councilors of Real Estate National Convention, San Antonio, Texas*

Statistics & Real Estate Damage Economics *Appraisal Institute National Meeting, Indianapolis, Indiana*

Environmental Damage Economics *Princeton Real Estate Conference, Princeton, New Jersey*

Detrimental Conditions & The Uniform Standards of Professional Appraisal Practice *Appraisal Foundation, San Francisco, California*

Project Delay Economics *Environmental Bankers Association, New Orleans, Louisiana*

Stigma and Its Impact on Real Estate Values *Keynote Speaker, The National Association of Real Estate Editors, Las Vegas, Nevada*

The Valuation of Environmentally-Impacted Properties *Brownsfield Symposium, Irvine California*

Detrimental Conditions - A Profile of Valuation Methodologies with Environmental, Crime Scene Stigma and Natural Disaster Case Studies *The National Symposium of the Appraisal Institute, Washington, DC*

Property Damage Analysis for a REO Portfolio *Western States Loan Servicing Conference
California Mortgage Bankers Association, Las Vegas, NV*

The Analysis of Detrimental Conditions *Keynote Presentation – International Conference Union Panamericana de Asociaciones de Valuacion, Cusco, Peru*

High-Profile Disasters and the Impact on Real Estate Values *The National Symposium of the Appraisal Institute, San Antonio, Texas*

Real Estate Damages: Analytical Tools and Their Application to High-Profile Case Studies *International Real Estate Society Conference, Kuala Lumpur, Malaysia*

Standardized Approaches to Valuing Contaminated Properties *Los Angeles County Bar Association*

Expert Witness Testimony Involving Contaminated Properties *Appraisal Institute - Southern California Chapter*

Contamination, Natural Disasters & Crime Scene Stigma *Orange County Bar Association*

Ethics and the Appraiser *Appraisal Institute - Southern California Chapter*

Diminution in Value: A Focus on Environmental Contamination, Natural Disasters and Stigma Damages *San Diego Bar Association*

Researching and Reporting Detrimental Conditions *Multiple lectures to COMPS, Inc. nationwide Real Estate Investment Strategies Newport Beach Rotary Club*

Environmental Contamination & Natural Disasters Workshop *Appraisal Institute - Southern California Chapter*

The Valuation of Environmentally Impacted Properties *Block Environment & Jeffer, Mangels, Butler & Marmaro*

The Impact of an International Airport on Real Estate Values *El Toro Reuse Planning Authority*

The Financial Analysis of Investment Grade Properties *Guest Lecturer at Cal-State Fullerton*

The Valuation of Asbestos-Contaminated Properties *International Right of Way Association*

Airports, Stigma and Property Values *Trabuco Canyon Community Association*

Technical Aspects of the Appraisal of Medical Properties *Appraisal Institute - Los Angeles Chapter*

The Appraisal of Estate Homes *Appraisal Institute - Southern California, San Diego and Ventura Chapters*

Market Resistance Towards Damaged Properties *Appraisal Institute - Fresno Chapter*

Real Estate Damages Valuation Methodologies *Summer Seminar Spectacular – Disneyland Hotel, Southern California Chapter of the Appraisal Institute*

High Profile Disasters and Property Damages *Orange County Appraisal Society, Orange County Assessor's Office*

The Appraisal: Diminution in Value Methodologies *Chicago Title Company, Western Division Claims Conference*

Project Delay Economics *Southern California Chapter, Appraisal Institute*

Due Diligence *The Center for Advanced Property Economics Symposium on Property and Environmental Damages, Toronto, Canada*

CORRESPONDENCE

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EXHIBIT 2

EXHIBIT 2 - DEFINITIONS

Market Value:

The most probable price, as of a specified date, in cash, or in terms equivalent to cash, or in other precisely revealed terms, for which the specified property rights should sell after reasonable exposure in a competitive market under all conditions requisite to a fair sale, with the buyer and seller each acting prudently, knowledgeably, and for self-interest, and assuming that neither is under undue duress. (Appraisal Institute: The Appraisal of Real Estate 13th Edition)

Market Resistance:

The risk, if any, associated with the ongoing stage of a detrimental condition analysis. Market resistance includes the reluctance on part of the real estate market to buy a property that has historically been damaged or tainted. Sometimes called *stigma*. (Appraisal Institute: Real Estate Damages 2nd Edition)

Stigma:

Stigma is essentially jargon or a slang term given to “risk” or “market resistance”. Stigma is defined as “An adverse public perception regarding a property; the identification of a property with a condition (e.g., environmental contamination, a grisly crime) that exacts a penalty on the marketability of the property and may also result in a diminution in value.” (Appraisal Institute: Dictionary of Appraisal, 5th Edition)

Exposure Time:

The estimated length of time the property interest being appraised would have been offered on the market prior to the hypothetical consummation of a sale at market value on the effective date of the appraisal.” Exposure time is different for various types of real estate and value ranges and under various market conditions. (Appraisal Institute: Dictionary of Appraisal, 5th Edition)

Fee Simple Estate:

Absolute ownership unencumbered by any other interest or estate, subject only to the limitations imposed by the governmental powers of taxation, eminent domain, police powers, and escheat. (Appraisal Institute: Dictionary of Appraisal, 5th Edition)

Highest & Best Use:

This may be defined as “the reasonably probable and legal use of vacant land or an improved property that is physically possible, appropriately supported, and financially

feasible and that results in the highest value.”(Appraisal Institute: The Appraisal of Real Estate 13th Edition) Leased Fee Estate:

The ownership interest held by the lessor, which includes the right to the contract rent specified in the lease plus the reversionary right when the lease expires. (Appraisal Institute: The Appraisal of Real Estate 13th Edition)

Leasehold Estate:

The right held by the lessee to use and occupy real estate for a stated term and under the conditions specified in the lease. (Appraisal Institute: The Appraisal of Real Estate 13th Edition)

Market Rent:

The most probable rent that a property should bring in a competitive and open market reflecting all conditions and restrictions of the lease agreement, including permitted uses, use restrictions, expense obligations, term, concessions, renewal and purchase options and tenant improvements (TIs). (Appraisal Institute: Dictionary of Appraisal, 5th Edition)

Hypothetical Conditions:

That which is contrary to what exists but is supported for the purpose of analysis. (USPAP 2010-2011 Edition, the Appraisal Foundation)

Extraordinary Assumptions:

An assumption, directly related to a specific assignment, which, if found to be false, could alter the appraiser’s opinions or conclusions. (USPAP 2010-2011 Edition, the Appraisal Foundation)

Jurisdictional Exceptions:

An assignment condition established by applicable law or regulation, which precludes an appraiser from complying with a part of USPAP. (USPAP 2010-2011 Edition, the Appraisal Foundation)

Definitions Related to Environmental Conditions:

There are a number of definitions from USPAP AO-9, as related specifically to environmental contamination, set forth within the declaration.

Class:

A set of items defined by a common characteristic. (Appraisal Institute: Dictionary of Real Estate Appraisal, 5th Edition)

Linear Regression:

A type of statistical analysis used to investigate a linear relationship between a dependent variable and one or more independent variables; used to predict the value of the dependent variable on the basis of the values of the independent variables and to develop an understanding of how a unit change in an independent variable relates to change in the dependent variable. Linear regression models employing a single independent variable are called simple linear regression models. Those employing more than one independent variable are called multiple linear regression models. (The Dictionary of Real Estate Appraisal, 5th Edition)

Regression Analysis:

A statistical method that examines the relationship between one or more independent variables and a dependent variable. Regression models can be used to examine the structure of a relationship or to forecast dependent variable values. Simple linear regression has one independent variable, whereas multiple linear regression includes more than one independent variable. (The Dictionary of Real Estate Appraisal, 5th Edition)

Change:

The result of the cause and effect relationship among the forces that influence real property values. (Appraisal Institute, *The Dictionary of Real Estate Appraisal Fifth Edition*, 32)

Delta:

In mathematics, the symbol for percent change. (Appraisal Institute, *The Dictionary of Real Estate Appraisal Fourth Edition*, 77)

EXHIBIT 3

EXHIBIT 3 - SALIENT FACTS

Overview of Assignment:

I was retained by Plaintiffs to quantify damages for property owners and lessees impacted by the Plains Oil Spill. In the accompanying declaration, I describe, from an appraisal perspective, how damages for such property owners and lessees can be calculated. Specifically, I describe how, based on my experience and research for this case, any harm to property owners and lessees can be quantified and why such losses can be quantified through mass appraisal techniques. No quantitative analyses have been undertaken.

File Identification:

Landmark Research Group, LLC
Case No.: 12-1-04-739
Plains Oil Spill

Client

Client is the counsel for Plaintiffs identified on the cover page of this declaration.

Intended User & Use This Declaration:

The intended user of this report is the client. The intended use of this report is by the client for litigation support in the stated matter. This report may not be utilized or relied upon by any other party, nor may it be relied upon by the client for any purpose other than the stated use.

Purpose of the Assignment:

The purpose of the engagement is to quantify damages for property owners and lessees impacted by the Plains Oil Spill. The specific purpose of this declaration is to describe, from an appraisal perspective, how damages for such property owners and lessees can be calculated. Specifically, I describe how, based on my experience and research for this case, any harm to property owners and lessees can be quantified and why such losses can be quantified through mass appraisal techniques. No quantitative analyses have been undertaken.

Type of Value Appraised:

No quantitative analyses have been undertaken.

Date of This Analysis:

July 7, 2017

Competency:

Randall Bell, PhD, MAI is experienced with real estate damage cases around the country and around the world. He has appraisal experience working in California, including coastline areas, environmental issues, oils spills and loss of use issues. Appropriate steps were taken to competently complete this assignment in accordance with USPAP, which are set forth throughout the accompanying declaration and exhibits.

Retrospective Value:

A retrospective opinion of value is a value likely to have applied as of a specified historic date. No quantitative analyses have been undertaken.

Type of Analysis:

This expert declaration, in combination with supporting documentation, deposition and trial testimony, is a portion of a restricted appraisal report. No quantitative analyses have been undertaken. As discovery is ongoing in this case, I reserve the right to revise and supplement this expert declaration as I continue to review and analyze the case file, and as more information becomes available.

The effective date of value and loss of use period was from approximately May 19, 2015, beginning when the oil spill effectively caused property owners or lessees to lose the reasonable use of their water amenities, until property owners regained the reasonable use of their water amenities, thus this is a retrospective analysis. Property rights appraised are fee simple. This is a retrospective analysis to demonstrate how the analysis can be completed once all the underlying facts are known.

The exposure time for a fee simple sale was estimated to be 6-months as of the effective date of value.

EXHIBIT 4

EXHIBIT 4 - ASSUMPTIONS AND LIMITING CONDITIONS

Standards Rule (S.R.) 2-1(c) of the Uniform Standards of Professional Appraisal Practice requires the appraiser to “clearly and accurately disclose all assumptions, extraordinary assumptions, hypothetical conditions, and limiting conditions used in the assignment.” In compliance with S.R. 2-1(c), such assumptions and limiting conditions are set forth below. Acceptance or use of any report constitutes acceptance of these assumptions and limiting conditions.

Unless otherwise identified, considered and described within the report:

1. The conclusions and opinions expressed in this report apply to the date of value as specified by the client. The dollar amount of any value opinion or conclusion rendered or expressed in this report is based upon the purchasing power of the United States Dollar existing on the date of value. Any forecasts, projections or operating estimates based on current market conditions are subject to changes with future conditions.
2. In preparing this report, the appraiser was required to rely on information furnished by other individuals, entities or found in previously existing records and/or documents. Such information is presumed to be reliable. However, no warranty, either express or implied, is given by the appraiser for the accuracy of such information and the appraiser assumes no responsibility for information relied upon later found to have been inaccurate. No responsibility is assumed for errors or omissions, or for information not disclosed which might otherwise affect the value estimate or other opinions expressed in this report. The appraiser reserves the right to make such adjustments to the analyses, opinions and conclusions set forth in this report as may be required by consideration of additional data or more reliable data that may become available.
3. The appraiser assumes no responsibility for economic, physical or demographic factors that may affect or alter the opinions in this report if said economic, physical or demographic factors were not present as of the date value. The appraiser is not obligated to predict future political, economic or social trends.
4. The Code of Professional Ethics and the Standards of Professional Practice of the Appraisal Institute, which include the Uniform Standards of Professional Appraisal Practice (USPAP), govern the disclosure of the contents of this appraisal report. In furtherance of the aims of the Appraisal Institute to develop higher standards of professional performance by its members, the appraiser may be required to submit to its authorized committees copies of this report, associated work file and/or supporting documentation. If the appraiser becomes involved in a legal matter in which disclosure is required as part of a legal process, any information so disclosed will be deemed to have been made public by the

appraiser and any information that may have been confidential might no longer be confidential.

5. No opinion or warranty as to the title of the subject property is rendered. Unless a survey was provided to the appraiser and such survey is referenced in the report, data related to ownership and legal description was obtained from public records and is considered reliable. Title is assumed to be marketable and free and clear of all liens, encumbrances, easements and restrictions, except those specifically discussed in the report, if any. The property is appraised assuming it to be under responsible ownership and competent management, and available for its highest and best use.
6. No soils, geological or hydrology studies were made available to the appraiser unless identified, considered and described in the report. It is assumed that there are no adverse conditions, which such reports would reflect, that affect the property. The appraiser assumes no responsibility for hidden or unapparent conditions of the property, subsoil, groundwater, surface water or structures that render the subject property more or less valuable. No responsibility is assumed for arranging for engineering, geologic, environmental or other studies that may be required to discover such hidden or unapparent conditions.
7. The appraiser has not been provided any information regarding the presence of any material or substance on or in any portion of the subject property or improvements thereon, which material or substance possess or may possess toxic, hazardous and/or other harmful and/or dangerous characteristics. The appraiser did not become aware of the presence of any such material or substance during the appraiser's inspection of the subject property. However, the appraiser is not qualified to detect, investigate or test for the presence of such materials or substances. The presence of such materials or substances may affect the value of the subject property. Unless otherwise indicated, the value estimated in this report is predicated on the assumption that no such material or substance is present on or in the subject property, or in such proximity thereto that it would cause a loss in value. The appraiser assumes no responsibility for the presence of any such substance or material on or in the subject property, nor for any expertise or engineering knowledge required to discover the presence of such substance or material. The intended user is urged to retain an expert in this field, if desired. This report assumes the subject property is in compliance with all federal, state and local environmental laws, regulations and rules.
8. The subject property is appraised assuming it to be in full compliance with all applicable zoning and land use regulations and restrictions, unless a noncompliance has been identified, considered and described in the report.
9. The property is appraised assuming that all required licenses, permits, certificates, consents or other legislative and/or administrative authority from any local, state or national government or private entity or organization have been or can be

obtained or renewed for any use on which the value estimate contained in this report is based.

10. The appraiser has made no engineering survey. Except as specifically stated, data relative to size and area of the subject property was taken from sources considered reliable and no encroachment or trespass of the subject property is considered to exist.
11. No opinion is expressed as to the value of subsurface oil, gas or mineral rights, or whether the property is subject to surface entry for the exploration or removal of such materials, except as is expressly stated.
12. Maps, plats and exhibits included in this report are for illustration only to serve as an aid in visualizing matters discussed within the report. They should not be considered as surveys or relied upon for any other purpose, nor should they be removed from, reproduced or used apart from the report.
13. No opinion is expressed for matters that require legal expertise or specialized investigation or knowledge beyond that customarily employed by real estate appraisers.
14. The distribution, if any, of the total valuation in this report between land and improvements applies only under the stated program of utilization. Any opinions of value apply to the entire property. The separate allocations for land and improvements, or the proration or division of the total into fractional interests, must not be used in conjunction with any other appraisal and are invalid if so used.
15. Possession of this report, or a copy of it, does not carry with it the right of publication. This report may not be used for any purpose by any person other than specifically identified intended users, without the written consent of the appraiser. In any event, this report may be used only with proper written qualification and only in its entirety for its stated purpose. Neither all, nor any part, of the contents of this report (including any conclusions as to value, the identity of the appraisers or the firm with which they are connected, or any reference to the Appraisal Institute or the MAI or SRA designations) shall be disseminated by anyone to the public through advertising media, public relations, news media, sales media, or any other public means of communication without prior written consent and approval of the appraiser.
16. Possession of this report by anyone does not require the appraiser's testimony or attendance in any court or other legal proceeding unless prior arrangements have been made at an additional fee.
17. Except as specifically indicated in the report, no seismic or geologic studies have been provided to the appraiser concerning the geologic and/or seismic condition

of the subject property. The appraiser assumes no responsibility for the possible effect on the subject property of seismic activity and/or earthquakes.

18. Unless a termite, dry rot, wet rot, pest or other infestation report was made available to the appraiser and such a report is identified, considered described in the report, it is assumed that there is no related damage or infestation.
19. No consideration has been given in this appraisal as to the value of the property located on the premises considered by the appraiser to be personal property, nor has the appraiser given consideration to the costs of moving or relocating such personal property; only the real property has been considered in this appraisal.
20. Any plans and specifications furnished by the client, upon which the valuation is predicated, are assumed to show the intent of the builder. However, the appraiser assumes no responsibility for their correctness, or for undisclosed modifications thereto. The appraiser makes no warranty as to compliance with the Americans with Disabilities Act, (ADA), if applicable.
21. Competitive institutional financing is assumed to be available.
22. There are no undisclosed restrictions or prohibitions concerning the possible use or development of the property for any purpose for which it is available.
23. No responsibility is assumed for any condition which might affect the valuation, but which is not readily observable from a normal and customary inspection of the premises as typically performed by members of the real estate appraisal profession.
24. No responsibility is accepted for unknown or unlikely issues that may impact the future or highest and best use of the subject property.
25. The appraiser has personally inspected the subject property if so stated and, except as noted in the report, finds no obvious evidence of structural deficiencies or any other detrimental conditions. The appraiser assumes no responsibility for hidden defects or non-conformity with specific governmental requirements, including but not limited to fire, building and safety, earthquake, occupancy codes or other requirements. The appraiser is not a licensed architect or engineer, and assumes no responsibility for disclosing structural or geotechnical deficiencies not readily apparent to the appraiser at the time of inspection.
26. There are a wide variety of detrimental conditions that can impact property values. The appraiser has inspected the subject property on a level that is consistent with the typical responsibilities of the appraisal profession and has noted any significant potential detrimental conditions within the report. However, the appraiser does not have the training or expertise to detect or assess many types of detrimental conditions, which require the services of market analysts, soils,

structural, sound, geotechnical or environmental engineers, scientists, urban planners and other specialists in various fields. The appraiser assumes no liability or responsibility for the impact of any detrimental condition. No analysis is made of any detrimental condition that is not specifically identified and considered within the report.

27. The appraiser and the client have an agreement regarding the intended use of the appraisal and report. The agreement states that the appraiser will not be liable for anything beyond the fees paid during the course of this assignment. This report may only be utilized with the acceptance of these assumptions and limiting conditions.
28. If any of the general assumptions and limiting conditions are incorrect, opinions and/or conclusions within the report may be invalid and the appraiser reserves the right to alter such opinions and/or conclusions. Any appraisal or report may describe or refer to documents relied upon that have been examined and assumed to be accurate. Such an appraisal or report will also describe or refer to extraordinary assumptions and/or hypothetical conditions relied upon by the appraiser, if any.

EXHIBIT 5

EXHIBIT 5 - MASS APPRAISAL CERTIFICATION

I certify that, to the best of my knowledge and belief:

- The statements of fact contained in this report are true and correct.
- The reported analyses, opinions and conclusions are limited only by the reported assumptions and limiting conditions, and are my personal, impartial and unbiased professional analyses, opinions and conclusions.
- I have no present or prospective interest in the property that is the subject of this report, and I have no personal interest with respect to the parties involved.
- I have performed no services, as an appraiser or in any other capacity, regarding the property that is the subject of this report within the three-year period immediately preceding acceptance of this assignment
- I have no bias with respect to any property that is the subject of this report or to the parties involved with this assignment.
- My engagement in this assignment was not contingent upon developing or reporting predetermined results.
- My compensation for completing this assignment is not contingent upon the reporting of a predetermined value or direction in value that favors the cause of the client, the amount of the value opinion, the attainment of a stipulated result, or the occurrence of a subsequent event directly related to the intended use of this appraisal.
- The reported analyses, opinions and conclusions were developed, and this report has been prepared, in conformity with the Uniform Standards of Professional Appraisal Practice, and the Code of Professional Ethics and Standards of Professional Appraisal Practice of the Appraisal Institute.
- The undersigned has made a personal inspection of the exterior of the properties that is the subject of this report.
- Significant professional assistance was provided by Valeo Schultz, Jack Williamson, Tyler Baird, Michael Bell, Dave Krishan, and Michael Tachovsky who assisted with general research.
- The use of this report is subject to the requirements of the Appraisal Institute relating to review by its duly authorized representatives.
- As of the date of this report, I have completed the continuing education program of the Appraisal Institute.

Respectfully submitted,

Randall Bell, PhD, MAI
Certified General RE Appraiser (AG001692)

EXHIBIT 6

EXHIBIT 6 – HOURLY RATE

Landmark Research Group, LLC charges \$475 per hour for my research time and \$675 per hour for deposition and court testimony. Support staff is billed at a lesser rate.

EXHIBIT 7

EXHIBIT 7 - SUMMARY OF TESTIMONY EXPERIENCE

1. Freeman vs. City of East Point, Georgia Superior Court, 1/12, Deposition
2. Abarca v. Merck, Depo, US District Court Eastern Division, 3/12, Deposition
3. Zelikowski v. Conoco Phillips, California Superior Court, 3/12, Deposition
4. City of San Diego v. Kinder Morgan, US District Court, 4/12, Deposition
5. Thomas v. ConocoPhillips, First Judicial Circuit, Escambia County, FL, 05/12 Deposition
6. Gibson v. Credit Suisse A.G. et al., US District Court. 11/12 Deposition
7. Otay Land Company, et.al. v. U.E. Limited L.P. et.al., California Superior Court, 4/13 Deposition
8. LA Pacific v. Paul, Hastings, Janovsky & Walker, California Superior Court, 4/13 Deposition
9. Watermill Flying Point v. Ronald Arrache - California Superior Court, 9/13 Deposition
10. Serochi v. BOSA, California Superior Court, 6/14 Deposition
11. OCWD v. Sabic, California Superior Court, 8/14 Deposition
12. Yokum v. Funky 544, New Orleans Parish Civil District Court, 9/14 Court Trial
13. Watermill Flying Point v. Ronald Arrache - California Superior Court, 10/14 Trial
14. Bertucci Contracting Co., LLC, United States District Court, Eastern District of Louisiana 11/14, Deposition
15. FDIC v. Appraisal Pacific, United States District Court Southern District of California 7/15, Deposition
16. Irvine v. Western National, California Superior Court 10/15, Deposition and Arbitration
17. Rio Mesa v. Fidelity, California Superior Court, 10/15, Deposition 30. Rio Mesa v. Fidelity, California Superior Court, 2/16, Trial
18. Diamond X Ranch LLC v. Atlantic Richfield Co., United States District Court, District of Nevada, 7/16, Deposition
19. Keith and Tiffani Andrews, Baci Family LLC et. al. v. Plains All American Pipeline, L.P., United States District Court, Central District of California, 11/16, Deposition
20. William C. Hardy, et. al. vs. United States, United States District Court, 5/17, Deposition

EXHIBIT 8

EXHIBIT 8 - MEDIA PHOTOGRAPHS OF PLAINS OIL SPILL



Volunteer Clean-up Effort of Plains Oil Spill¹



Workers Cleaning Plains Oil Spill²

¹ Michael Winter and Robert Hanashiro, "Cause of Oil Spill Probed as Cleanup of California Coast Continues," *USA Today*, May 21, 2015, <http://www.usatoday.com/story/money/2015/05/20/oil-pipeline-santa-barbara-refugio-state-beach/27631837/>.



Volunteer Clean-Up Effort³



Buckets of Oil from Clean-Up Effort⁴

² Ibid

³ Ibid



Worker Conducting Clean-Up⁵



Beach Closures⁶

⁴ Ibid

⁵ Laura Wagner, "Pipeline Company Indicted Over 2015 California Oil Spill," *NPR*, May 17, 2016, <http://www.npr.org/sections/thetwo-way/2016/05/17/478388898/pipeline-company-indicted-over-2015-california-oil-spill>.

EXHIBIT 9

EXHIBIT 9 - WATER FEATURE PREMIUMS LITERATURE REVIEW

No.	Study	Water Body	Property Type	Findings
1	Hansen and Benson (2013)	Ocean	Single Family Residential	Premiums for homes near water feature range from 19.7% to 39.7%.
2	Rohani (2012)	Ocean	Single Family Residential	Ocean view 50% increase. Located within 100 meters of coastline 43% increase. Distance to beach access doubled then decline of 17%.
3	Hamilton and Morgan (2010)	Ocean	Single Family Residential	Households are willing to pay a premium for living close to the water.
4	Nelson, Hansz, Cypher (2005)	Man-made Canal	Single Family Residential	It appears that canal frontage is statistically significant with an adjusted price differential of 11.1%
5	Bond, Seiler, and Seiler (2002)	Lake	Single-family homes	A price premium of \$256,545 or 90% is observed for properties with a lake view.
6	Seiler, Bond, and Seiler (2001)	Lake	Single-family homes	A price premium of \$115,000 or 56% is observed for properties with a lake view.
7	Benson, Hansen and Schwartz (2000)	Ocean and Lake	Single-family homes	Price premiums ranging from 8% to 127%, depending on the quality of an ocean/lake view and the distance from the water. Unobstructed ocean views command a 59% price premium.
8	Rush and Bruggink (2000)	Ocean and Bay	Single-family homes	A premium of 0.3% per front foot is found for homes located on a bay and 0.4% per front foot for homes located on the ocean.

⁶ Adam Domanski, "How Do We Measure What We Lose When An Oil Spill Harms Nature," NOAA, April 5, 2016, <https://usresponserestoration.wordpress.com/category/chemical-releases/page/2/>.

9	Benson et al.(1998)	Lake/Ocean	Single-family homes	A premium of 26% is attributed to all and lake properties with a view of either the ocean or lake. An 8% premium is found for homes with a poor ocean view, while a 59% premium is found for homes with an unobstructed view. Lakefront properties experience a 127% price premium.
10	Benson et al. (1997)	Ocean	Single-family homes	A premium of 147% is found for properties with ocean frontage, 32% is found for properties with an ocean view, and 10% is found for properties with a partial ocean view.
11	Yorshis (1968)	Ocean	Single-family to Apartments	Overall price premiums vary from 30% to 75% for oceanfront lots with views and access versus those non-oceanfront lots with or without views and with or without beach access. Lots without views or beach access are found to have values 75% lower than the oceanfront lots.
12	Major & Lusht (2004)	Ocean and Bay	Single Family Residential	A premium of 206.8% for beachfront properties with premiums diminishing to 73.1% and 29.9% for each successive block in distance from the water. Bayfront properties were found to have premiums of 73.1%.
13	Rinehart & Pompe (1994)	Ocean	Single Family Residential	A premium of 2.6% for each 10% increase in beachfront width. Homes further from the water generally have lower values.
14	Wertheim, Jividen, Chatterjee & Capen (1992)	Ocean	Residential Lot	Lot value increases as distance to the ocean decreases.
15	Plattner & Campbell (1978)	Lake	Condominiums	A price premium of 4% to 11% is observed for properties with a lake view.
16	Darling (1973)	Lake	Single Family Residential, Multi-Family Residential, and Vacant Lots	A price premium of \$2,362 to \$2,756 is observed for properties with a lake view.

EXHIBIT 10

EXHIBIT 10 - VALUATION OF ENVIRONMENTAL DAMAGES LITERATURE REVIEW

Detrimental Conditions ("DC") are any situation that can influence property values, such as environmental contamination, market conditions, distress conditions, bankruptcy, stigma, airport noise, construction defects, geotechnical problems, and natural disasters. While there are literally hundreds of DCs that can influence property values, they can all be classified into one of 10 basic categories. The Bell Chart, which has been published widely by the Appraisal Institute and the International Right of Way association, sets forth how environmental contamination and the other categories of detrimental conditions should be analyzed:⁷

⁷ Real Estate Damages: Applied Economics and Detrimental Conditions Third Edition, Appraisal Institute - Chicago, Illinois -

THE BELL CHART

Ten Categories of Damage Economics

ID Class	Items of Disclosure	Damage Valuation	Damage Economics																			
I	General Condition General descriptive information i.e., size, access, history, title, market trends, etc.	<p>There are many Items of Disclosure (IDs) that should be addressed by real estate professionals. Many IDs have no impact on value, but if a question of value arises, a Detrimental Condition (DC) analysis is required. The starting point for such an analysis is the DC Matrix, which illustrates the array of potentially relevant issues. All nine elements of the DC Matrix should be</p> <table border="1"> <tr> <th colspan="3">Detrimental Condition Matrix</th></tr> <tr> <th></th><th>Assessment</th><th>Repair</th><th>Ongoing</th></tr> <tr> <td>Cost</td><td>Assessment Costs & Responsibility</td><td>Repair Costs & Responsibility</td><td>Ongoing Costs & Responsibility</td></tr> <tr> <td>Use</td><td>Use Impacts While Assessed</td><td>Use Impacts While Repaired</td><td>Impact on Highest & Best Use</td></tr> <tr> <td>Risk</td><td>Uncertainty Factor</td><td>Project Incentive</td><td>Market Resistance</td></tr> </table> <p>considered. This can yield a variety of valuation patterns based upon the inclusion, exclusion and timing of each element, as reflected in the DC Model. Damages are benchmarked against the <i>Baseline Value</i>. In determining the impact on value, it is critical that a distinction be made between the DC and unrelated issues. For example, market conditions may be responsible for a change in value that is unrelated to the condition being studied.</p> <p>The impact of DCs on property values is ultimately an empirical question that requires the application of one or more of the three traditional approaches to value:</p> <ol style="list-style-type: none"> 1. The Sales Comparison Approach utilizing market data with and without the DC. 2. The Income Capitalization Approach utilizing income and risk factors with and without the DC. 3. The Cost Approach utilizing data with and without the costs and losses associated with a DC. <p>The DC Matrix, coupled with the three approaches to value, provides the fundamental framework for the analysis of DCs. (From the book, <i>Real Estate Damages</i>)</p>	Detrimental Condition Matrix				Assessment	Repair	Ongoing	Cost	Assessment Costs & Responsibility	Repair Costs & Responsibility	Ongoing Costs & Responsibility	Use	Use Impacts While Assessed	Use Impacts While Repaired	Impact on Highest & Best Use	Risk	Uncertainty Factor	Project Incentive	Market Resistance	DCs may have a variety of impacts which, upon analysis, vary on a case-by-case basis.
Detrimental Condition Matrix																						
	Assessment	Repair	Ongoing																			
Cost	Assessment Costs & Responsibility	Repair Costs & Responsibility	Ongoing Costs & Responsibility																			
Use	Use Impacts While Assessed	Use Impacts While Repaired	Impact on Highest & Best Use																			
Risk	Uncertainty Factor	Project Incentive	Market Resistance																			
II	Transactional Condition Issues that are unique to a specific transaction i.e., special motivation, option, "fire-sale", assemblage, financing, exchange, sale-leaseback, foreclosure, feng shui, etc.																					
III	Distress Condition Violation, crime or tragedy i.e., terrorist attacks, fire, citation, crime scene, war, death, criminal records, etc.																					
IV	Legal Condition Legal issues or obligations i.e., eminent domain, legal-insurance claim, title, lot line, CC&R, lien, bond, lease, historic, moratorium, zoning, easement, etc.																					
V	External Condition Neighborhood issues i.e., noise, odor, hazard, power lines, airport, view diminution, etc.																					
VI	Building Condition Improvements or construction issues i.e., defects, termites, pests, ADA, code violations, permits, repairs needed, etc.																					
VII	Site Condition Soils or geotechnical issues i.e., drainage, basins, grading, fill, cracking, subsidence, slides, corrosive soils, compaction, groundwater, settlement, etc.																					
VIII	Environmental Condition Contamination or environmental issues i.e., septic, spills, haz-mat, asbestos (1979), lead paint (1978), mold, agency lists, radioactive, metals, solvents, biological, hydrocarbons, etc.																					
IX	Conservation Condition Natural or cultural resource issues i.e., habitat, endangered species, natural or cultural resources, archeological, shoreland, wetland, etc.																					
X	Natural Condition Natural hazards or problems i.e., flood, wildfire, seismic, volcano, tornado, storm damage, etc.																					

The Uniform Standards of Professional Practice address methodologies related to environmental issues.

Following are relevant excerpts from USPAP AO-9:⁸

The appraisal of properties that may be impacted by environmental contamination involves specialized terms and definitions that might not be used in an appraisal assignment in which the effect of the property's environmental condition is not analyzed, or when the property is not contaminated.

Though it is recognized that there are other valid definitions of these and similar terms, for purposes of this Advisory Opinion, the following definitions apply:

Diminution in Value (Property Value Diminution): The difference between the unimpaired and impaired values of the property being appraised. This difference can be due to the increased risk and/or costs attributable to the property's environmental condition.

Environmental Contamination: Adverse environmental conditions resulting from the release of hazardous substances into the air, surface water, groundwater or soil. Generally, the concentrations of these substances would exceed regulatory limits established by the appropriate federal, state, and/or local agencies.

Environmental Risk: The additional or incremental risk of investing in, financing, buying and/or owning property attributable to its environmental condition. This risk is derived from perceived uncertainties concerning:

- the nature and extent of the contamination;
- estimates of future remediation costs and their timing;
- potential for changes in regulatory requirements;
- liabilities for cleanup (buyer, seller, third party);
- potential for off-site impacts; and
- other environmental risk factors, as may be relevant.

Environmental Stigma: An adverse effect on property value produced by the market's perception of increased environmental risk due to contamination. (see Environmental Risk, above)

Impaired Value: The market value of the property being appraised with full consideration of the effects of its environmental condition and the presence of environmental contamination on, adjacent to, or proximate to the property. Conceptually, this could be considered the "as-is" value of a contaminated property.

Remediation Cost: The cost to clean up (or remediate) a contaminated property to the appropriate regulatory standards. These costs can be for the cleanup of on-site contamination as well as mitigation of off-site impacts due to migrating contamination.

Remediation Lifecycle: A cycle consisting of three stages of cleanup of a contaminated site: before remediation or cleanup; during remediation; and after remediation. A contaminated property's remediation lifecycle stage is an important determinate of the risk associated with environmental contamination. Environmental risk can be expected to vary with the remediation lifecycle stage of the property.

Source, Non-Source, Adjacent and Proximate Sites: Source sites are the sites on which contamination is, or has been, generated. Non-source sites are sites unto which contamination, generated from a source site, has migrated. An adjacent site is not contaminated, but shares a common property line with a source site.

Proximate sites are not contaminated and not adjacent to a source site, but are in close proximity to the source site.

Unimpaired Value: The market value of a contaminated property developed under the hypothetical condition that the property is not contaminated.

Relevant Property Characteristics [should this be deleted or defined]

The appraisal of a property that includes the effects of environmental contamination on its value usually requires data not typically used in an appraisal of an otherwise similar but uncontaminated property or an appraisal of a potentially impacted property using either a hypothetical condition or an extraordinary assumption that it is uncontaminated or not impacted. The inclusion of these additional relevant property characteristics is consistent with Standards Rule 1-2 (e). The relevant property characteristics may include, but are not limited to:

- whether the contamination discharge was accidental or permitted;
- the status of the property with respect to regulatory compliance requirements;
- the remediation lifecycle stage (before, during, or after cleanup) of the property as of the appraisal date;
- the contamination constituents (petroleum hydrocarbons, chlorinated solvents, etc.);
- the contamination conveyance (air, groundwater, soil, etc.);
- whether the property is a source, non-source, adjacent or proximate site;
- the cost and timing of any site remediation plans;
- liabilities and potential liabilities for site cleanup;
- potential limitations on the use of the property due to the contamination and its remediation; and
- potential or actual off-site impacts due to contaminant migration (for source sites).

Since the appraiser is usually not an expert on the scientific aspects of contamination, experts from other fields will typically provide this information. Appropriate regulatory authorities

should also be consulted to confirm the presence or absence of contamination. The appraiser should consider the use of extraordinary assumptions when this information serves as a basis for an opinion of value. The appraiser should also collect similar data for any comparable sales used in the analysis.

The DC Matrix and USPAP – Advisory Opinion 9 outline the issues that should be considered with an assignment involving contamination or other real estate damage issue. The Uniform Standards of Professional Appraisal Practice (USPAP) states that any deduction from the unimpaired value for environmental issues must be supported by market data, such as data from the MLS. In other words, an appraiser or economist may not just state a figure that is based solely upon their “experience.”

The cost approach, as relevant to appraising detrimental conditions, deducts appropriate “costs and responsibilities” related to the contamination issues from the unimpaired value.

The income approach, as relevant to appraising detrimental conditions, examines the income and expenses to determine if the condition has any impact on the income, expenses or the capitalization rate.⁹ When the approach is applicable, there are various factors that should be considered, including lost rents, increased vacancy, projected costs and time of the cleanup, any indemnity, mortgage and equity yield rates, and financing costs.¹⁰ The reasonable use of a property should also be considered.¹¹

When utilizing an income approach, there are two key questions that should be considered. First, has the potential or actual net operating income been impacted by the contamination, i.e., lower rents, higher vacancy, one-time expenses, higher ongoing expenses and so forth? Second, has the capitalization rate been impacted as a result of the contamination?

As the capitalization rate is actually a weighted blend of both lenders’ and investors’ interests, this issue can be addressed by interviewing both lenders and investors to determine how each have reacted in situations involving loans or purchases of similarly contaminated properties.

The income approach produces a variety of potential analyses for detrimental conditions, including, but not limited to, the following:

- Lost Rent Studies
- Financing Study
- Incrementally Higher Insurance Costs
- Ground Lease Analysis
- Project Delay Analysis
- Temporary Construction Easement (TCE) Analysis

⁹ James A. Chalmers and Scott A. Roehr, “Issues in the Valuation of Contaminated Property,” *The Appraisal Journal* (1993): 28-41.

¹⁰ Katherine A. Kiel, “Measuring the Impact of the Discovery and Cleaning of Identified Hazardous Waste Sites on House Values,” *Land Economics* (1995): 431.

¹¹ Richard J. Roddewig, “Environment and the Appraiser Temporary Stigma: Lessons from the Exxon Valdez Litigation,” *The Appraisal Journal* (1997): 96-101.

- Capitalization Rate Analysis
- Band of Investment Analysis

The sales comparison approach is often highly relevant with properties with detrimental conditions. The sales comparison approach produces a variety of potential analyses for detrimental conditions including, but not limited to, the following:

- Paired-Sales Analysis
- Listing Discount
- Price or Rental Rate (Per Square Foot) Analysis
- Market Trend Study
- Time Value Analysis
- Days on Market
- Sales Re-sales Analysis
- Sales Velocity
- Listing Discounts
- GIS Proximity Studies
- Case Studies
- Broker Interviews
- Market Surveys
- Rate of Foreclosures
- Simple Regressions
- Multiple Regressions

EXHIBIT 11

EXHIBIT 11 - OIL SPILL LITERATURE REVIEW

1. Article 1: Louisiana Office of Tourism, *Summer Response-Gaming* June 8, 2010 Number of respondents (out of 1003) not likely to visit LA in next 12-months due to oil spill: Percent of respondents who cancelled trip due to oil spill: May 2010 26%, August 2010 29%. Number of respondents (out of 1003) not likely to visit LA in next 12-months due to oil spill: May 2010 – 834 (83%), August 2010 *11 (81%)
2. Article 2: Gulf Shores & Orange Beach Tourism, *Gulf Oil Spill: Perception Impact Response*, Reality: Summer 2010 vs. 2009, Lodging Revenue -47.5%, Retail sales - 27.5% Lodging revenue Mississippi, Alabama, and Haas center for Business Research report totaled -\$98.8 million lost. Three quarters of respondents feel the beaches will be cleaned up within 3-years, holding steady with August and October studies.
3. Article 3: U.S. Travel Association, *U.S. Travel Association Supports Nelson Amendment to Carry Back Tax Losses Three Additional Years for Those Impacted By Oil Spill*,” June 15, 2010, “Nelson’s proposal, which would allow eligible taxpayers to carry back the net operating losses for five years instead of two years allowed under current law.”
4. Article 4: Oxford Economics, *Potential Impact of the Gulf Oil Spill on Tourism* “The disruption to visitor patterns is expected to last a minimum of 15 months . This implies a minimum impact scenario that tourism flows to the region return to normal levels by late 2011 and would entail an aggregate cost of \$7.6 billion in lost tourism revenues. However, there is a clear risk that impacts may be greater than this and that the crisis will adversely affect tourism arrivals for up to 36 months. In this high impact outlook, tourism flows to the region would not return to normal until early 2013, involving lost revenues of almost \$22.7 billion.”
5. Article 5: Congressman Jo Bonner, *Written Testimony of Congressman Jo Bonner, Alabama’s First District, December 7, 2011, House Committee on Transportation and Infrastructure*, “To add some perspective, the hotel occupancy rate in the Gulf Shores and Orange Beach areas during the summer of 2007 was 83%. With the mortgage market bust and economic downturn of 2008 and 2009, we watched this rate fall to 76% and 77% respectively. To follow this two year 10% decline in occupancy with the oil spill seems like a cruel joke, but it is no joke, and in 2010, we watched this occupancy rate plummet, yet again, to just under 60%.”

“This only tells a fraction of the story though. Condominium occupancy rates for these two coastal cities fell from a high of 69% in 2009 to just under 38% occupancy in 2010. Taxable retail sales for the summer months, which were up 2.3% over the previous year in 2009, dropped off a cliff in 2010, coming at a whopping 27.5% below the previous year. This story goes on and on and there is simply no denying the impact this spill has had and will continue to have on local businesses, government, and overall economic health of the Alabama Gulf Coast.”

6. Article 6: Innisfree Hotels, *U.S. House Committee on Transportation & Infrastructure Julian MacQueen Testimony*, December 7, 2011 “We own and operate 12 properties with 1,640 hotel rooms and condominium suites in Florida and Alabama. Those of us who live on the Gulf are well experienced with natural disasters. For example, I lost seven hotels in one night with Hurricane Ivan in 2004, and one of my properties was the first hotel to reopen on Pensacola Beach. But nothing I had experienced prior prepared me for the oil and the Corexit dispersant that drifted unabated from the spill. This toxic brew fouled our waters and blanketed our formerly sugar white beaches with a thick oil mousse and weathered tar balls. We make 70% of our money in the summer, and this hit just one month away from commencement of our peak season. It was much worse economically than the hurricane, which typically hits at the end of summer or in the early fall after the hotels and their seasonal employees have made the money to carry them through the winter. The phones stopped ringing as soon as the spill occurred and people watched the oil 24/7 gushing into the Gulf and floating our way.” “But I cannot stress enough that the long term impacts of this disaster are not over. We have documented that many of our historical core customers have not returned to our hotels. For example: Our Pensacola Beach Hilton lost 50% of its premium Hilton Honors Guests. The core geographic markets from which our guests come has changed. We know that over 50% of our gross revenue increase in 2011 over 2009 at our Pensacola Beach Hampton Inn came from 95 markets from which we have never had a guest while the number of guests from out traditional markets has declined. Many of our core customers went to new locations last year and may never return.”
7. Article 7: USA Center for Real Estate Studies, *The Gulf Spill and Its Impact on Coastal Property Value Using the Before-and-After Procedure*, Don Epley, Director, August 15, 2010, Florida Waterfront Vacant Residential Land 3 locations, total “stigma” -16.18%.
8. Article 8: Realty Times, *Making the Case for Lost Property Value Claims in the Gulf Oil Disaster Zone*, Broderick Perkins, September 1, 2010 “Seattle based Greenfield Advisors, LLC...estimates that more than 1 million parcels could suffer value losses in 44 counties in the Gulf Coast states of Alabama, Florida, Mississippi and Texas. The potential loss over 5 years in Escambia-Pensacola area is \$1.6 billion, in Gulfport-Biloxi is \$1.2 billion and Mobile Alabama, is \$470 million.”
9. Article 9: Corelogic, *New Corelogic Data Shows the Potential Impact of the BP Deepwater Horizon Oil Spill on Coastal Real Estate*, Dan Smith & Alyson Austin “Report Provides Range of Losses for 15 Counties Over 5 Years” Corelogic... reported today that the impact of the BP Deepwater Horizon oil spill on home values in the coastal communities along the Gulf Coast communities is expected to range from \$648 million over one year and to as much as \$3 billion over five years for the communities already being impacted by the spill.”
10. Article 10: Housing Predictor, *BP Oil Spill Triggers Major Home Value Loss*, Mike Colpitts, July 19, 2011 “A study of home sales in Louisiana, Alabama, Mississippi, and Florida along the Gulf of Mexico, shows that home values have fallen an average of 15% so far as a direct result of the BP oil spill. The devastating impact from the massive oil

spill has also contributed to the growing foreclosure crisis in the region with tens of thousands of people losing employment as a result of the mess.” “On particularly windy days, the smell of oil can still be detected as far away as the Florida coastline, where remnants of oil from the ocean’s floor have been evident in the last few weeks.”

11. Article 11: Bloomberg News, *Oil Spill May Cost \$4.3 Billion in Property Values*, John Gittlesohn, June 11, 2010 “BP Plc oil spill may drive down the Gulf Coast’s shore-area property values by 10% for at least three years, according to CoStar Group. Losses may total \$4.3 billion along the 600-mile stretch from Louisiana bayous to Clearwater, Florida, the property information service estimates.”
12. Article 12: Kelly Mellot, “Oil Spill Impacts Housing Market in Areas Beyond Gulf” Reverse Mortgage Daily, September 15, 2010 “Survey results show more than 50% of the poll’s respondents reported a five to 15% decrease in home values in their area, and 23.8% felt the oil spill had a negative effect on their markets. The southern coastal region of Alabama and the Florida panhandle were affected the most by physical property damage from the spill. In Mobile, Alabama, the number of home sales fell 25% this June (2010) compared to last year’s numbers. However, many more inland areas are reporting at least 5 to 15% decrease in property value and 3.2% reported actual physical damage due to the spill.”
13. Article 13: Vanessa N Vargas, “Estimated Business Interruption Losses of the Deepwater Horizon Oilspill”, May 2011 Given the level of uncertainty regarding the oil spill amounts and length of time it will take the region to return to pre-Deepwater Horizon activity. It is assumed that economic activity could be disrupted for as long as 10-years, which is a reasonable assumption given reports that up to 15-years after the Exxon Valdez spill the regional economy was still suffering from the effects. Medium and long-run economic analysis will consider industry sector impacts that last for 1, 5, and 10 years.” “As conveyed in the industry sector discussion decreased tourist activity has been reported to be as much as 50 percent.” “For labor day weekend, counties across the Gulf of Mexico (except Louisiana) were reporting 30 to 50% decrease in occupancy when compared to the previous year.
14. Article 14: IEM, *A Study of the Economic Impact of the Deepwater Horizon Oil Spill – Part Two – Moratoria*, January 13, 2011: “Business Plans: Offshore Project Solutions. The moratoria caused the business to lose all of its clients. The owners have already used their entire savings to pay the company’s monthly overhead. They are looking for different work.” “R & D Enterprises has lost 100% of its revenue stream. The owners have stopped taking salaries and are living on savings.” “A and C management, Inc. is only barely breaking even. The owners are not taking salaries in order to cut costs. They reported that this is the worst their business has been in 40 years.” “While the federal government announced it was lifting the drilling moratorium on October 12, 2010, interviewees have reported no measurable changes to their businesses since that time. Two interviewees attributed this directly to the continued lack of permits being issued.”

15. Article 15: IEM, *A Study of the Economic Impact of the Deepwater Horizon Oil Spill – Part One – Fisheries*, October 15, 2010 Projected Impact Scenarios for Revenue Losses in Louisiana Commercial Fisheries range between \$115 million and \$172.5 million during 2011, 2012 and 2013.
16. Article 17: Appraisal Journal, *The Effects of an Oil Pipeline Rupture on Single-Family House Prices*, Robert A. Simons, Kimberly Winson-Geideman, and Brian A. Mikelbank, October 2001, “Patuxent River community beaches have incurred a loss of value over \$14,000, which equates to 10.9%, after the rupture of Pepco's oil pipeline in April, 2000.”
17. Article 18: Appraisal Journal, *Fuel-Oil Contamination of a Residence: A Case Study in Stigma*, Bruce M. Closser, July 2001, Some of this value loss remained as stigma after the cleanup was completed. The best estimate of this stigma is 28% (with a range of 22%– 29%) two years after the contamination event occurred and one year after the cleanup had been completed. Three years after that, the estimate is that stigma was still at about 6%. Thus, five years after the contamination event and four years after the completion of cleanup, some residual stigma still remained; however, it is clear that stigma had declined significantly.
18. Case studies were developed with primary research along the Gulf Coast, which are contained within the addenda and are summarized as follows:

BP Oil Spill – Summary of Case Studies

No	Location - Property Type	Project Delay	Discount
1	New Orleans, LA - Retail		6%
2	Long Beach, MS - Land	Ongoing - 2 Years 9 Months To Date	
3	Gulfport, MS - Land	Ongoing - 2 Years 9 Months To Date	
4	Gulfport, MS - Land	Ongoing - 2 Years 9 Months To Date	
5	Long Beach, MS - SFR	1 Year 2 Months	
6	Biloxi, MS - Land	1 Year 8 Months	
7	Dauphin Island, AL - SFR		8%
8	Dauphin Island, AL - SFR	1 Year 2 Months	
9	Orange Beach, AL - High Rise Condos		
10	Gulf Shores, AL - Duplex		6%
11	Pensacola, FL - SFR		65%
12	Pensacola Beach, FL - Land		21%
13	Fort Walton Beach, FL - Condo		7%
14	Fort Walton Beach, FL - Condo		13%
15	Destin, FL - Condo	1 Year	
16	Destin, FL - Condo		5%
17	Santa Rosa Beach, FL - SFR		21%
18	Saint George Island, FL - SFR		18%
19	Saint George Island, FL - SFR		6%
20	Port Saint Joe, FL - Land		
21	Panama City Beach, FL - Condo		26%
22	Panama City Beach, FL - SFR	Ongoing - 2 Years 9 Months To Date	
23	Destin, FL - Condo		12%
24	Panama City Beach, FL - Condo		3%
25	Molino, FL - Land		7%
26	Biloxi, MS - Condo Project		
27	Lafayette, LA - Apt	Ongoing - 2 Years 9 Months To Date	
28	Sarasota, FL - Retail		3%
29	Pensacola Beach, FL - Condo	1 Year 7 Months	
30	Pensacola Beach, FL - Condo	1 Year 1 Month	
31	Pensacola Beach, FL - Condo	1 Year	
32	Treasure Island, FL - SFR	Ongoing - 2 Years 9 Months To Date	
33	Anna Maria, FL - SFR	2 Years 4 Months	
	Range	1 Year - Ongoing - 2 Years 9 Months To Date	3%-65%

19. The case studies indicate wide spread real estate issues related to the BP oil spill which range from one year delays, to delays that are ongoing today, which is two years and nine months after the spill. Discounts for properties from these case studies range from 3% to 65%.

EXHIBIT 12

EXHIBIT 12- REGRESSION ANALYSIS

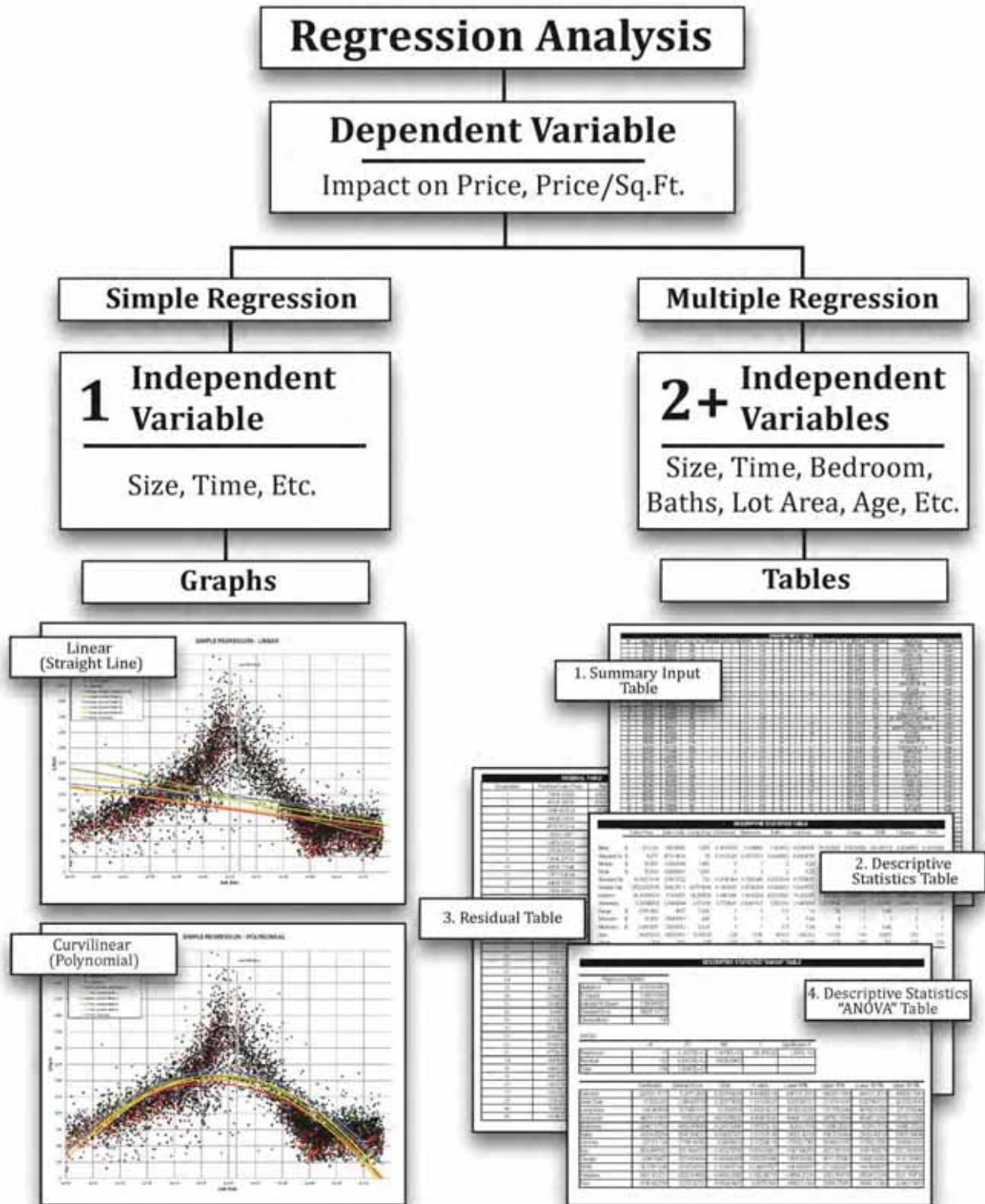


EXHIBIT 13



Plains Oil Spill Survey – Beach Oil

Hi, my name is _____. I am conducting a brief survey for the Landmark Research Group related to the Plains Oil Spill that occurred along the coastline of Santa Barbara County during May of 2015.

How far did you walk to the beach today?

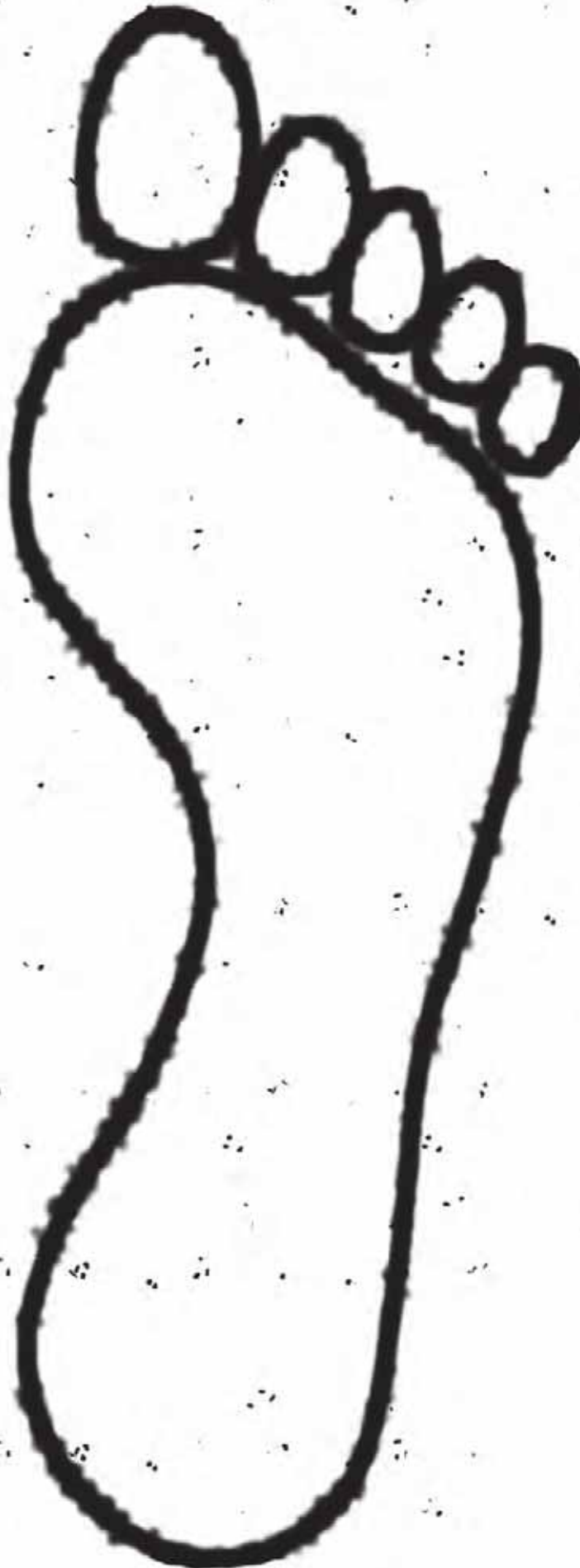
How far are you willing to walk to the beach?

I would like to show you some pictures depicting various amounts of oil on the beach. The oil could come from natural seeps or from a man-made source. The pictures range from no oil or very low trace amounts to a heavy amount. Would you visit and use the beach if the beach had this level of oil? *[Show pictures and write down number where the respondent states an unwillingness to go to the beach]*

Can I get your first name?



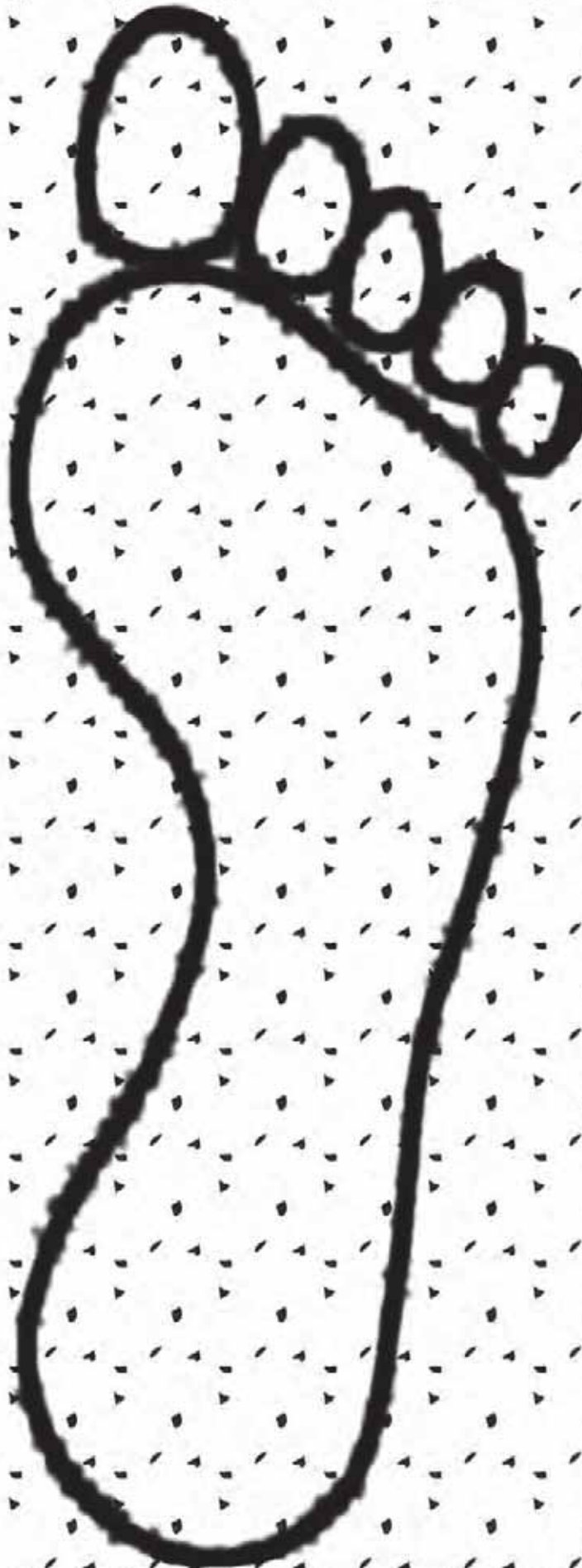
#1 NOO



#2 - <0.5%



#3 - < 1.0%



#4 - = 1.0%



#5 - = 1.0%



#6 - =10%



#7 - = 20%

8

#8 - =30%



#9 - = 70%

EXHIBIT 14

Exhibit 14: Beach Segments Characterized Heavy, Moderate, or Light Oiling

Division/ SCAT Segment*	Oiling Category	START		END	
		Latitude	Longitude	Latitude	Longitude
SBIS		34.4607857739	-120.0732672820	34.4707655696	-120.2287086870
SBIS-IS-001	Heavy				
SBIS-IS-002	Heavy				
SBIS-IS-002	Light				
SBIS-IS-002	Moderate				
SBIS-IS-003	Heavy				
SBIS-IS-003	Moderate				
SBIS-IS-004	Heavy				
SBIS-IS-005	Heavy				
SBIS-IS-005	Moderate				
SBJS		34.4621698998	-120.0472030950	34.4607857739	-120.0732672820
SBJS-JS-001	Heavy				
SBJS-JS-001	Moderate				
SBKS		34.4609701808	-120.0113755610	34.4621698998	-120.0472030950
SBKS-KS-001	Heavy				
SBKS-KS-001	Moderate				
SBLS		34.4410686462	-119.9645973530	34.4609701808	-120.0113755610
SBLS-LS-001	Heavy				
SBLS-LS-001	Moderate				
SBLS-LS-002	Heavy				
SBLS-LS-002	Moderate				
SBMS		34.4312790554	-119.9166332130	34.4410686462	-119.9645973530
SBMS-MS-001	Heavy				
SBMS-MS-002	Heavy				
SBNS		34.4091771342	-119.8646121630	34.4312790554	-119.9166332130
SBNS-NS-001	Heavy				
SBNS-NS-001	Moderate				

SBNS-NS-002	Heavy	34.4048251988	-119.8444901950	34.4091771342	-119.8646121630
SBNS-NS-003	Heavy				
SBOS					
SBOS-OS-001	Heavy				
SBOS-OS-001	Moderate	34.4164738844	-119.8118951050	34.4048251988	-119.8444901950
SBPS					
SBPS-PS-001	Heavy				
SBPS-PS-002	Moderate				
SBQS		34.3995030406	-119.7022430150	34.4164738844	-119.8118951050
SBQS-QS-001	Heavy				
SBQS-QS-001	Moderate				
SBQS-QS-002	Heavy				
SBQS-QS-002	Light				
SBQS-QS-002	Moderate				
SBQS-QS-003	Heavy				
SBQS-QS-003	Light				
SBQS-QS-003	Moderate				
SBQS-QS-004	Heavy				
SBQS-QS-004	Light				
SBQS-QS-004	Moderate				
SBRS		34.4199711742	-119.6050517510	34.3994982320	-119.7022305590
SBRS-RS-001	Light				
SBRS-RS-002	Light				
SBRS-RS-003	Heavy				
SBRS-RS-003	Light				
SBRS-RS-004	Light				
SBRS-RS-005	Moderate				
SBSS		34.4052763743	-119.5479549640	34.4199711742	-119.6050517510
SBSS-SS-001	Light				
SBSS-SS-002	Light				
SBTS		34.3732227262	-119.4768891550	34.3958446894	-119.5317510530
SBTS-TS-001	Light				
SBTS-TS-003	Moderate				
SBTS-TS-004	Light				

VNAS							
VNAS-AS-001	Heavy	34.3555465982	-119.4429483840	34.3732227262	-119.4768891550		
VNAS-AS-001	Moderate						
VNBS							
VNBS-BS-001	Heavy	34.3179640729	-119.3899335200	34.3551674854	-119.4428475460		
VNBS-BS-001	Light						
VNBS-BS-001	Moderate						
VNCS							
VNCS-CS-001	Heavy	34.2756171300	-119.3106334290	34.3179640729	-119.3899335200		
VNCS-CS-001	Light						
VNCS-CS-001	Moderate						
VNDS							
VNDS-DS-001	Heavy	34.2503834394	-119.2692209130	34.2744695330	-119.3077399560		
VNDS-DS-001	Light						
VNDS-DS-001	Moderate						
VNDS-DS-002	Heavy						
VNDS-DS-002	Light						
VNDS-DS-003	Light						
VNES							
VNES-ES-001	Light	34.1577264779	-119.2276149830	34.2482611347	-119.2682821050		
VNES-ES-002	Light						
VNES-ES-002	Moderate						
VNES-ES-003	Heavy						
VNES-ES-003	Light						
VNES-ES-003	Moderate						
VNFS							
VNFS-FS-005	Heavy	34.1457568360	-119.2131105060	34.1570414877	-119.2255397290		
VNFS-FS-005	Light						
VNFS-FS-005	Moderate						
VNFS-FS-006	Heavy						
VNFS-FS-006	Moderate						
VNGS							
VNGS-GS-002	Light	34.1195461103	-119.1598856670	34.1447451751	-119.2098069910		
VNHS							
		34.1195461100	-119.1598856670	34.1080563628	-119.1424781230		

VNHS-HS-001	Heavy				
VNHS-HS-002	Heavy				
VNHS-HS-003	Moderate				
LA-A		34.0002678609	-118.8069453140	34.0457794029	-118.9447340090
LA-A-S001	Moderate				
LA-A-S002	Moderate				
LA-A-S005	Moderate				
LA-A-S006	Moderate				
LA-A-S008	Moderate				
LA-A-S009	Moderate				
LA-A-S010	Moderate				
LA-A-S011	Moderate				
LA-A-S012	Moderate				
LA-B		34.0319557987	-118.6981184630	34.0002678609	-118.8069453140
LA-B-S001	Moderate				
LA-B-S002	Moderate				
LA-B-S003	Moderate				
LA-B-S005	Moderate				
LA-B-S006	Moderate				
LA-B-S007	Moderate				
LA-B-S008	Moderate				
LA-C		34.0380204660	-118.5559758240	34.0308728009	-118.6825704140
LA-C-S001	Moderate				
LA-C-S002	Moderate				
LA-C-S005	Moderate				
LA-C-S006	Moderate				
LA-C-S008	Moderate				
LA-C-S009	Moderate				
LA-D		33.9683869420	-118.4465102110	34.0380204660	-118.5559758240
LA-D-S001	Moderate				
LA-D-S002	Moderate				
LA-D-S003	Moderate				
LA-D-S004	Moderate				
LA-D-S005	Moderate				

LA-D-S006	Moderate	33.7534077553	-118.2666355250	33.9683869420	-118.4465102110
LA-D-S007	Moderate				
LA-D-S008	Moderate				
LA-E					
LA-E-S001	Moderate				
LA-E-S002	Moderate				
LA-E-S003	Moderate				
LA-E-S004	Moderate				
LA-E-S005	Moderate				
LA-E-S006	Heavy				
LA-E-S007	Heavy				
LA-E-S010	Moderate				

Mezić Segment**	Oiling Category	Latitude	Longitude
M-2	Light	34.468799	-120.246732
M-2	Light	34.449933	-120.430554
M-3	Moderate	34.046950	-118.957352
M-3	Moderate	34.092746	-119.080640
M-4	Moderate	33.714085	-118.317855
M-4	Moderate	33.802416	-118.404986
M-5	Light	33.652583	-118.000000
M-5	Light	33.713709	-118.316114

* Oiling Divisions and Segments Created by NOAA for Cleanup and Remediation; Latitude and Longitude endpoints available for Division level only.

** Oiling Segments for Missing SCAT Segments as Determined by Dr. Mezić

EXHIBIT 15

EXHIBIT 15 – MARKET PERCEPTIONS LITERATURE REVIEW

1. Berrens, Robert P., Alok K. Bohara, Hank C. Jenkins, and Carol L. Silva. 2003. “The Effect of Environmental Disclosure Requirements on Willingness to Pay for Residential Properties in Borderlands Community.” *Social Science Quarterly*, June 2003, 84(2):359-378.

An evaluation of how environmental disclosure requirements impact demand (willingness to pay) for real estate.

2. Decker, Christopher S., Donald A. Nielsen, and Roger P. Sindt. 2005. “Residential Property Values and Community Tight-to-Know Laws: Has Toxics Release Inventory Had an Impact?” *Growth and Change* (Winter 2005) 36(1):113-133.
Using the Toxic Release Inventory (TRI) in the Omaha, NE area, the study shows a significant impact of release information about a smelter on the NPL and housing values.

3. Edelstein, Michael R. 1988. *Contaminated Communities: The Social and Psychological Impacts of Residential Toxic Exposure*. Boulder, Colorado: Westview Press. P. 6.
Environmental events where blame is a factor can disrupt the market equilibrium disproportionately. The negative perceptions can become associated with technologies such as petroleum refining, nuclear energy, waste processing, or methods of transportation.

4. Erickson, Kai. 1990. “Toxic Reckoning, Business Faces a New Kind of Fear.” *Harvard Business Review*, January-February 1990, pp. 118-126.
Erikson evaluates how fear is perceived and effects actions. He states that “Being contaminated has an all-or-none quality to it, similar to being alive or pregnant. When a young child drops a sucker on the floor, the brief contact with ‘dirt’ may be seen as contaminating the candy, causing the parent to throw it away rather than washing it off and returning it to the child’s mouth.”

5. Gluck, Allan, Donald Nanney, and Wayne Lusvardi. 2000. “Mitigation Factors in Appraisal and Valuation of Contaminated Real Property.” *Real Estate Issues*, Vol. 25, No. 2, Summer 2000.

In addition to the cost of cleanup, value impacts must take into account the legal and environmental perceptions associated with the remediation.

6. Ho, Sa Chau, and Diane Hite, 2004. “Economic Impact of Environmental Health Risks on House Values in Southeast Region: a County-Level Analysis.” Presented at the American Agricultural Economics Association Annual Meeting, Denver, Colorado, August 1, 2004.

This study uses hedonic modelling to evaluate the relationship between environmental risks and property values.

7. Jenkins-Smith, Hank C., Carol L. Silva, Robert P. Berrens, and Alok Bohara. 2002. "Information Disclosure Requirements and the Effect of Soil Contamination on Property Values." *Journal of Environmental Planning and Management* 45(3):323-339.
The disclosure of negative information results in a diminution in the values of property located adjacent to contaminated smelters.
8. Jones, Edward E., A. Farina, A.H. Hastorf, Hazel Markus, Dale T. Miller, and Robert A. Scott. 1984. *Social Stigma: The Psychology of Marked Relationships*. New York: W.H. Freeman and Co. pp.4-7.
Marking a process as deviant has significant impact on emotions, thoughts, and behaviors. The negative characteristics are often not physical but are nevertheless transferred to a person or a thing, including real estate, wherein it is perceived as flawed, blemished, discredited, spoiled, or stigmatized..
9. Kraus, Nancy, Torbjorn Malmafors, and Paul Slovic. 1992. "Intuitive Toxicology: Expert and Lay Judgements of Chemical Risks." *Risk Analysis* 12(2):215-232.
This article states that responses to contagion or contamination follows a different pattern than the adverse effects in physical patterns modelled by scientists.
10. Kunreuther, Howard, and Paul Slovic. 2001. "Coping with Stigma: Challenges and Opportunities." pp. 269-280 in *Risk, Media and Stigma – Understanding Public Challenges to Modern Science and Technology*, edited by J. Flynn, P. Slovic, and H. Kunreuther. London: Earthscan.
Environmental risks become perceived as larger as it is repeated through the community on media.
11. McClusky, Jill J., and Gordon C. Rausser. 2003. "Stigmatized Asset Value: Is It Temporary or Long-Term?" *The Review of Economics and Statistics* 85(2):276-285.
A stigmatized area can lead to longer-term negative impacts on value even after remediation due to changes in desirability to higher-income buyers, as lower income buyers move in over time.
12. Messer, Kent D., William D. Schulze, Katherine F. Hackett, Trudy A. Cameron, and Gary H. McClelland. 2006. "Can Stigma Explain Large Property Value Losses? The Psychology and Economics of Superfund." *Environmental and Resource Economics* 33:299-324.

In residential markets, participants tend to focus on the medical risks of pollution rather than the physical and financial risks to real estate.

13. Muldowney, Timothy J., and Kendall W. Harrison. 1995. "Stigma Damages: Property Damage and the Fear of Risk." *Defense Counsel Journal* 62(4):525-538.
Perception of diminution in value can result in actual diminution in value. This is caused by uncertainty, complexity, and timing.
14. Payne, P.A., S. Jay Olshansky, and T.E. Segel. 1987. The Effects on Property Value of Proximity to a Site Contaminated with Radioactive Waste." *Natural Resources Journal* 27:579-590.
Fear or negative perceptions are the leading cause of declines in property values associated with contamination.
15. Roddewig, Richard. 1996. "Stigma, Environmental Risk and Property Value: Ten Critical Inquiries." *The Appraisal Journal* 64(4):375-387.
This appraisal article finds that the perceptions of market participants can influence the value and is as important a consideration as whether the contamination actually affects the surrounding property.
16. Roddewig, Richard. 1999. "Environment and the Appraiser – Classifying the Level of Risk and Stigma Affecting Contaminated Property." *The Appraisal Journal* 67(1):98-102.
Human behavior and market activity are often based on perceptions as well as intrinsic characteristics. The disconnect between physical evidence and perceptions lead to pricing and value disruptions.

EXHIBIT 16



Plains Oil Spill Survey

Hi, my name is _____. I am conducting a brief survey for the Landmark Research Group related to the Plains Oil Spill in Santa Barbara County during May of 2015 and any effect it had on the local community.

Were you working or living in Santa Barbara/Ventura coastal area at the time of the oil spill that occurred near Refugio State Beach?

Comments: _____

Which beaches do you consider to be your neighborhood beach? Which do you tend to visit?

Beach or Community?	Impact? (High, Medium, Low)	How Long?
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

Did the oil spill affect the community's normal and reasonable use of the beach?

- ☐ No (Comments) _____
- ☐ Yes (Comments) _____

Did the beaches have more, about the same, or less oil/tar than normal?

Do you have any general or specific examples how the oil spill did or did not impact the local community or real estate market – such as the normal use of the beach, or rentals or sales activities?

Thank you! May I have your first name?

Community Beach Impact Survey Results

<u>County</u>	<u>Impact</u>	<u>No Impact</u>	<u>Don't Know</u>
Santa Barbara	95	10	8
Ventura	34	25	4
Los Angeles	47	46	35
Total	176	81	47